

"Crisis Relocation Planning in California"

Class Outline For The Article

I Growth in Soviet military power

A. Evacuate if 1 hr. or more, stay if less

1. Soviets not to accurate
2. Can't evacuate big cities

B. 1960's Soviets hit somewhere near our missiles

1. Home shelter program
2. Public shelters - where

C. 1973 Soviets have nuclear advantage

1. By mid 1980's Soviets have vast superiority
2. The MAD doctrine
 - a. Soviets don't believe in
 - b. Want to effloish planned for superiority

D. 1972 started testing for evacuation of cities

1. Evacuate in 2 or 3 days (assume this the ideal)
2. Industrial dispersal
3. We have no operating program
4. We lose 160 million, the Soviets 5

II U.S. Evacuation Program

A. Time for talk if both sides out of town

B. Smaller countries with nuclear.

C. 1973, San Antonio plan the start

1. March 1979 all states working on
2. No advance knowledge needed by public
3. Useful in natural disasters
4. Terrorists with bomb

D. The 3 or 4 day period

E Targets

1. Missiles
2. Military, supply and support
3. Industrial, economic, either over 50M

②

F. Risk

1. Over 2 PSI
2. 101000 R or more dose in 4 days

G. Risk Population

1. 2/3 nation in 1 of 3 categories
2. In California, 87% or 18½ million
3. 7 city for lack rural or problems.
4. Study begins maximum blast and fallout.

III Evacuating

A. Order by President

1. How news spread
2. Local instructions

B. No need to panic

1. Take first car
2. Supplies for 2 weeks, family longer

C. Spontaneous and stay puts

1. 30% leave ahead of time
2. Only small number of stay puts

D. No car!

1. 13% , 2.3 million don't own car
2. 13% includes PV and RV tho

E. Other than auto

1. Air 900M in 3 days
2. Rail 750M
3. Ship not covered
4. pleasure boat only small number, max 300M

F. Where do you go

1. Shift north
2. Uniform hosting and travel
3. To central valley or central coast
4. LA longest time, refuel needed

IV The Nash Area

A Congregate Care

1. Small town
2. Existing non residential structures
3. Allow only 10th if to get all in
4. Estimate 50% of locals will take in 3 families (3 people per family)
5. Camping

B Food

1. Expected 60% will bring 1 week supply
2. Plus local supplies = 6½ days
3. About 4th day, community feeding
4. Allow 20 min per meal = 13 hours average for 2 meals

C. Food restore follow present routes

D Water

1. Rural use 350 to 400, city 200
2. Can go early as low as 10, estimate for 20
3. Only partial river treatment
4. chemicals for drinking water
5. Will be some contamination in spite of

V need for key workers

A Essential industries

B Fire and police for

C. 20% of work force, or 1½ million Californians

D The key workers

1. Don't stay behind
2. Nearby safe area, 70% to Riverside Co.
3. Commute for 12 hour shifts
4. Best shelter, vehicles stay with

VI Fallout

A. Need more shelters in host areas

B. How to provide

C. Expected shelters

VII Medical

A 50% drop in in-patients

B 50% of in patients discharged

1. 40% moved

2. 10% to nearby facility

C. 25 m moved to safe areas

1. Only 4500 beds

2. Temporary hospitals

D. Effect increases

1. Communicable diseases

2. Stress problems

3. Injury from fire and shov work

E. Serious illness or injury

1. Average trip of 200 miles versus normal 5 miles

2. To fringe area hospital

3. Deaths expected

VIII Can we get out in 3 days?A. San Diego in $1\frac{1}{2}$ days

B. LA in 3, but 12:1

1. 70 to 75% out in 3 days, try for rest in no more than 2 more

2. Recommends against 1 way highways

3. Remember, assuming 100% evacuation

IX Conclusions

A Study is just a study

B Prototype by spring of 1980

C. Have to look at such as gas stations

D. How much government goes along

E. Funding for training

"In the event of attack, the relocation could then evolve into a form of resettlement of undetermined duration."

Questions On Crisis Relocation

Noway: In phone book

I Vehicle Fuel

1. Study figures 15 MPG. In bumper to bumper? Vehicles heavily loaded.
2. What happens when stations run out of unleaded?
3. Study counts stations in 1977, less now
4. Will stations be opened on such as a holiday.
5. What if you're broke? Take credit card? Take M.C., Will slow fueling.
6. Do you have funnel and short hose.

II Getting There (Planning for as far away as Utah.)

1. Can we take our second car? They already figure on many 1 passenger cars.
2. Overestimate of those needing transportation
3. Will price of fuel and other commodities suddenly rise?
4. If car breaks down, may have to catch a ride. Need buses
5. Railroads at same level as highway
6. Using short box car trains for passengers. Loading wrong
7. No info on how fast cars moving.

III When You Get There

1. Are counting restaurant seats. How about toilet seats?
2. Would drivers be less polluting than using sewer systems? (no water, less pollution)
3. Is freight involved in shipping food out of the valley and back in?
4. Is warehousing really a problem?
5. Where put the cars, 18 million in 6 million cars, 330 towns = 100 acres ea.

IV Crime

1. Will they evacuate jails and prisons?
2. Problem of the addict who can't find his fix.
3. May be no looting in rich area, but what will crime be in poor area?
4. Police problems with different radio frequencies?

V Misc.

1. Credibility: Previously said it couldn't be done.
2. Will all get out in time? 30% spontaneous
3. Any folioter in being declared an essential industry?

4. Obvious that answer for commuters is not the answer.
5. What do we do for a plan in the meantime, until 1985?
6. Gentlemen is not part of the plan, but will effect.
7. Getting caught in open on way home from work

VI

No plan:

1. About $\frac{1}{3}$ survive, 80 million
2. With shelter, save another 30 million
3. Relocations save another 100 million

(says can't add 30 & 100)

An Update on C. R. C. in California

I S.U. develops the bomb

A The U.S. develops plans to counteract the threat

1. an evacuation plan for likely target areas
2. By 60's Soviet missiles improve in accuracy
 - a Government recommends home shelters
 - b idea flaps

3. Public shelter idea

- a In commercial buildings but not enough space
- b Shelters stocked, but stocks no longer usable
- c Are the crackers rancid?

II By 1973, SU has the nuclear advantage

A. U.S. develops the MAD doctrine while Soviets develop more missiles

1. Also the term overkill
2. Both need to spend so much on defense

B. Critics Talk of the window of vulnerability in mid 1980's

1. SALT I and then SALT II and words such as sanity and détente
2. Sec Defense Brown admits we're behind near end of Carter adm.
3. We have 15 years of catchup or forced to surrender
 - a Our defensive triad
 - b What happens when lose 1 leg of a 3 legged stool

III Why Soviets feel can win a nuclear war (didn't buy the MAD doctrine)

A. As early as 1972, Testing an evacuation plan

1. No food stored in city over 50,000
2. Some dispersal of industry
3. We lose 160 million, they lose 5

B. They think it will work.

IV The U.S. must have a plan to counteract the Soviet Plan

A Planning starts in U.S.

1. 1973 San Antonio
2. Aug '77 California study completed

3. By March '79 all states working on federally funded plans.

B What are the risk areas

1. Counterforce
2. military support
3. Population of 50,000 or more, economic and industrial

C Over 2 PSI blast pressure is a risk area

1. That's 2/3 of US population
2. 87% in California, in 3 metropolitan areas, 18½ million people
3. Assuming worst effects of air and ground burst and 100% evacuation.

V How the plan would work

A A build up of tensions between U.S. and S.U.

1. Our intelligence detects start of Soviet evacuation
2. President gives order to evacuate U.S. cities.

B Most movements by private auto

1. Can also use aircraft and trains. Buses for the "no wheels"
2. Is possible that up to 30% will evacuate prior to order
3. Even essential workers will evacuate, but to nearest host area

C. New study, in general all areas shift north

1. Host areas with uniform 7-1 hosting ratio
2. L.A. basin mostly to central coast and San Joaquin Valley

VI Taking care of the refugees

A Food chain remains the same (2/3 goes thru L.A.)

1. Mass feeding after a few days
2. Housed in such as gyms and halls (congregate care) (no homes)

B. Temporary fallout shelters from commercial buildings

1. all able bodied expected to work on
2. All costs, including food support to be paid by federal govt.

C. Expect a number of problems

1. More medical problems and long way from large hospitals
2. Problems with sewer plants

- D. Essential workers to remain in risk area (about $1\frac{1}{2}$ million workers)
1. Off hours in host areas with families
 2. Work 12 hour shifts and commute by bus or carpool

VII Can we get out in time

- A. Not in surprise attack, but don't expect surprise attack
1. In surprise attack, only about 15 min. warning
 2. Soviets must save at least part of their population

- B. San Diego can evacuate in $1\frac{1}{2}$ days

1. Can evacuate basin in 3 days but fileups for 4 to 7 days for 7-1
2. Remember figuring 100% but 30% already gone
3. Physically feasible to evacuate in no more than 48 hours

- C. Pilot project Riverside, San Bernardino and Inland by spring of 1980

VIII First draft of the State plan, June 1980

- A. Changing acceptable blast pressure to 3 PSI = numerous other changes

1. Less risk area, more host area, shorter trips
2. Host area in N. L.A. and S.E. Orange counties
3. Some over Cajon and as far north as Mono County
4. Reduces risk population from 87% to 80%

- B. Controlled freeway traffic for evacuation

1. Only certain ramps open, rest blocked by such as trucks
2. Traffic metered onto freeway, police to keep it moving
3. Forget the 55 MPH

IX Will the plan be completed by the mid 80's

- A. California O.E.S. says yes. Still on schedule

1. Federal people say is overoptimistic
2. L.A. County says no

- B. So what do we do in the meantime

1. A mini plan to be ready by Oct 1, 1982
2. Federal guidelines but local planning

X The mini evacuation plan for the basin.

A 2-18-82 Conversation with Bob Newman of county disaster

1. FEMA tried to impose a plan
2. Local jurisdictions said wouldn't work
3. Met with FEMA and state planners

B Agreed to work on a regional plan

1. Forgetting the mini plan
2. Regional plan will not be completed until after 1985

C. Newman seemed pretty negative about CRP

1. also said didn't have time to answer letters
2. Claims improvement in disaster but can't handle big quake

XI Negative attitudes toward C.D.

A Are various reasons

1. Preparing is a warlike action
2. Money for CD takes funds from other projects
3. Head in the sand. "It wouldn't work anyway."

B. No plan can work if the public is misinformed

1. When a politician gives misinformation, a lie, or lack of info.
2. Supervisor Nakins recent statement
 - a. All to Beaumont and Banning
 - b. If I can get info, he can too, and has a staff

XII So how do you survive.

A You come up with your own plan

1. You keep up with what's going on in the world
2. You pick an evacuation spot

B Remember, a paper plan alone is useless

1. Means accumulating both information and essential items
2. Home storage of food and hiking gear in case car breaks down

Crisis Relocation

- 2-8-82 Called Area E office for information on the mini evacuation plans that are to be ready by Oct. 1 of this year. According to the girl I talked to, the plans seem to be in limbo. Are perhaps 20 cities in the county with federal funding, and only 3 in Area E.

There is a lack of coordination. You may evacuate your city, but only find yourself in another city. Where is your other host area. Says have received a whole stack of material, both from FEMA and the State, but more specific guidance is needed.

Suggests I contact Bob Neiman, Asst. Disaster Director for the L.A. Co. Emergency Preparedness Comm. at 974-1353.

- H.R. 6961 To be referred to as the Emergency Evacuation Act of 1980
(3-27-80 referred to the Committee on Armed Services)

Directs FEMA to develop CRP which would also be used for nuclear power plant evacuation or other non-military emergency.

States can't compare nuclear attack with any past major civilian accident. Evacuation plans have, or could have, saved lives in past civilian accidents. Wants less emphasis on nuclear power accidents and more on natural and industrial incidents.

Wants #1 Redirect efforts, so highest priority to post-attack recovery in high population areas.

#2 Evacuation for civilian accidents

#3 Nuclear power plant evacuation

(Have copy of H.R. 6961)

- 7-27-82 Have finally seen some small article in the paper indicating L.A. County has refused to go along with CRP but not clear if they are turning down merely the mini-plan, or the full plan. Seems they may go along with the full plan, but then may only be paying lip service to the plan, to be completed in 1991, to get FEMA off their back for the time being.

I personally don't believe politicians even will go along with any CD plan that would require funding, especially local and state outlay. You might say that most politicians belong to the "me generation", no matter what their age. They're going to look out for #1 in the "now", and to shell with the future. Tax money is needed to keep them in office, and money spent on any kind of preparedness doesn't buy votes. Too bad the constituents may have to finish along with the politicians.

○ "Out of Ashes" The US has an ABM system, but it is not sure how many missiles it will stop and nuclear war is only hours away. The general public isn't aware of this, and there is no CD plan. Two high government officials are discussing the matter and one asks if the public should be warned. The other says no, "Better the people are surprised - if it comes to that - than have several days of pure panic."

This is fiction, but could it happen that way in real life?

There were rumors in the books and survivalists were warning, only hours before the press broke the news.

○ Pulling through: Here is east of the hills in back of Oakland. The bomb has dropped in the bay area. First evacuees over the ridge are people on light trail motorcycles.

For the walkers, lone walkers moved faster than groups. Saw one man with a wheeled golf bag. Saw a family of 4 using Stone method of walk 50 paces, trot 50, then walk again.

Her's nephew and his skateboard after had to leave car. When left home, saw freeway already bumper to bumper. Saw CHP cutting fence to allow cars to get out of the hopfuler jam. Family took state route in their van. Almost died beside RR tracks once, and saw hundreds of people hanging on a passing train. Stalled car in roadway, abandoned and locked, and owner took ten days. That meant the steering wheel locked, so even tho other windows, couldn't steer car off the roadway. Men tipped the car over to roll it off the road, but then a hazard because of the gasoline leaking from the upsid-down tank.

In Livermore all the streets clogged and cars driving across lawns, getting stuck in flower beds. Thought they could start drive like they saw in the movies.

Later heading for north side of bay but a bridge hasn't been cleared yet. Army Engineers are clearing bridge with log fork equipment. Pick one up and drop it over the side.

Crisis Relocation Planning

Feb 18 1982, talked to Bob Neiman (Nymman) about mini CRP for this area. (974-1353)

A committee has been formed of the basin counties and a number of the larger cities to discuss CRP. Have had 2 or 3 meetings. Said FEMA started to impose their plan on this area, but officials said it wouldn't work. Got together with FEMA and the state planners. State planners now say, OK, forget the mini-plan, we'll work on a regional plan.

From this it appears there will not be a mini plan for this area, and the regional plan, part of the state plan, will not be completed until after 1985. A resurvey of fallout (blast) shelters was not scheduled until 1987, but hoped to move up to 84 or 85.

On the question of when a plan would be ready, "will take a long time."

On the EBS system, said are now using the emog radio with 22 stations included. (Didn't ask if these all radio, or included TV)

Neiman gave me the impression of being pretty negative on the whole idea of CRP, but perhaps just discouraged due to the problems involved. Didn't see how an individual jurisdiction, such as La Mirada, could go it alone. I mentioned Fremont's old plan where apparently the city had made its own arrangements for at least relocating the city government.

Says Dr. Fields is wrong on the completion time of CRP.

On the question, has any thought been given to recovery. Last thing knew of, was the '68 state plan. Did mention the uselessness of paper plans. Says there has been an improvement in our disaster capability but apparently not when considering a disastrous quake.

Says the next time I write, to include my telephone number (at work) or had a hard time locating me and then learned it was my day off.

I explained the problems of talking by phone at work but says he
doesn't have time to answer letters.

MY IDEAS ON EVACUATION

(Note: This written before I read the crisis relocation study)

NUCLEAR THREAT:

The major highways out of the basin are:

101 Toward Santa Barbara	2 lanes each way = 4	2 for evacuation
5 Toward Bakersfield	3 " " 6	4 " "
Cal 14 off 5 to Palmdale & Bishop	2	4 2
10 Toward Indio	3	6 4
15 over Cajon Pass	3	6 4
total for evacuation		16

Moving 1 auto per second, 5,229,600 people could be moved in 24 hours at 4 persons per car. Such would allow about 70' between cars, more than normal freeway spacing, but perhaps not enough for nervous drivers. If figure 10 million people in the basin, it would take less than 48 hours to move all by auto.

I am figuring on using both inbound and outbound lanes as outbound, with a spare lane each side for autos that breakdown. Not being a traffic engineer, someone more knowledgeable might state that using only the outbound lanes might be more feasible. Wide shoulders for autos that break down would of course increase the capacity of the highway, so that all normally traveled lanes could be used.

Much will involve one massive traffic jam, but with proper self control on the part of the public and sufficient traffic control personnel I believe such a plan could work. Radio and TV could be used to notify people of the main route they would be taking. To prevent surface streets from being blocked, evacuees could be routed to collection points such as shopping center parking lots, drive in theaters or such as large factory parking lots or even on the grass of public parks, or neighborhood schools.

Gas stations would be ordered open, if not during normal business hours. If a station failed to open within a specified time, CD crews would either make forcible entry, or hand pump fuel from storage tanks. Adapters would be provided to fuel "unleaded only" cars with other fuels when the unleaded storage tanks ran dry, which no doubt would happen.

EVACUATION

All available fuel trucks would be ordered to load immediately, and when fueled, send to preselected spots along the evacuation route. Motorists would be expected to fuel their vehicles before getting on the evacuation freeway. Such could be checked by monitors at evacuation assembly points. Broadcasts would also remind citizens to take other needed items such as food, water, necessary clothing and perhaps such as a minimum of bedding.

Fuel trucks should be spotted every 5 miles and motorists warned that if they run out of gas, they must abandon their vehicle. Of course, would apply to breakdowns that couldn't be quickly repaired. Hopefully arrangements could be made to have service stations on the open highway remain open, with the fuel trucks spotted in between. Roadside fuel trucks would carry diesel also, but perhaps spotted further apart. No doubt fuel trucks would require fuel hoses and some type of adapters in order to fuel vehicles directly from their tanks.

Buses, both transit, school and private could be used to transport such as ambulatory hospital and nursing home patients, or those who had no other means of transportation, but I would not use them to transport those who had other means of evacuation. Auto breakdowns along the route are inevitable, leaving people stranded. Such could be collected by buses. Once the bus was full, it would move on to its destination, with another taking its place.

Even with vehicle spacing and good traffic control, accidents are bound to happen even with good traffic control and converging groups. Such of course would stop traffic so the roadway must be cleared as soon as possible. For this reason, tow trucks should be spotted at perhaps 5 mile intervals.

Accidents mean injuries so this would mean the spotting of ambulances along the route, with suburban hospitals and/or emergency aid stations at intervals of say 10 miles, meaning no more than 5 miles to medical care.

Evacuation would begin by radio and TV announcements of a general evacuation. The public would be told to go to their nearest assembly location, but only after taking specified amounts of supplies, with the warning that they would be checked for these supplies at the assembly point. Motorists would be told to gas up before going to the assembly point. Service stations would be replenished by fueling directly from fuel tank trucks.

Probably at least an hour would be required to clear the freeways. Perhaps more, giving perhaps a 2 hour preparation time for the first convoys. Order of evacuation would be determined by proximity to assumed targets. Time would be required for those assigned to traffic control to reach their stations, but within 2 hours they should be able to have freeways cleared for the first convoys.

Broadcasters would tell citizens without transportation to attempt to arrange a ride to the nearest assembly point. If they were unable to, they should watch for a school bus that would pick them up. If they were bedridden, or otherwise unable to get on the bus, or missed it, they would be told to call and local city government number listed in the phone book. School buses would deposit their passengers at assembly points.

Being as Southern California probably has an average of 2 cars, or more per family, and being as an automobile is the next largest investment to a person's home, many families will want to take both cars, leaving empty seats for those who do not have transportation. Those wishing to take more than one vehicle, and when such vehicle had extra seats, the extra seats would be filled by someone who needed a ride.

It is true that buses can carry more passengers per vehicle, but I would recommend against immediately using all available buses to remove the population. I would first use the buses for "1 kind passengers" such as ambulatory patients from hospitals and nursing homes, accompanied by doctors and nurses, also such as boarding schools, or other institutions where passengers could not be picked up by members of their family.

There would no doubt not be enough ambulances to move the sick riders. The ideal substitute would be a motorhome, but it is doubtful enough of them could be made available. Station wagons could be used if a minimum of one was required during a 2 or 3 hour trip. The last resort would be buses with most of the seats stuffed

out, or even several van type trucks. With their present popularity the 1/2 ton van would be a good substitute for a station wagon, with the added advantage of more headroom.

The railroads might be a good means of evacuation, the bedridden, or could as others suggest, Passenger cars could be reserved for the ill and elderly and young, while the able bodied adults could travel in box cars, or even cattle cars if the weather were warm. A few ventilators installed in a box car, plus a water supply would make the car suitable for a 1 day ride.

Evacuation Reasons - non nuclear

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There are any number of incidents that could lead to you and your family having to leave your home. A family having to leave their home because of a serious fire or storm damage would be one of the most common, or on a more widespread scale, the temporary evacuations due to fire flood or storms as mentioned in chapter ____.

As already discussed, a long loss of electrical power in an otherwise undamaged area could bring about the need for evacuation when food and water supplies are about to run out, or more probably where it is seen that such supplies will run out, and action is taken well before that time.

A devastating earthquake could bring about conditions requiring immediate evacuation of the affected area. The San Francisco earthquake is a good example. The quake spawned fires that destroyed a large portion of the city, and prompted many to flee across the bay to the Oakland area. Sturdier structures are constructed today but similar devastation is still entirely possible and could easily produce the necessity of medium, or long term evacuations.

②

A quake, due to broken gas lines and shorted electrical circuitry, could produce many more fires than the local fire department can handle, and nearby forces may be unable to provide assistance because they are having the same problem. Add to this broken water mains, blocked streets and possibly damaged fire equipment, and you have the ingredients for a holocaust.

An earthquake can damage the main road arteries into the affected area, cutting off the bringing in of food, water and other supplies and it may be determined that it is easier to bring the people out to food and housing than it is to take the food and housing to the people.

Other than the disrupting of utilities and highways, a serious quake would no doubt bring about injury and death with the number of casualties depending upon the strength of the tremor. In a very strong quake many bodies might be found under collapsed structures, and unless immediately retrievable, will begin to decompose. Such can produce a health hazard that could not be handled by evacuation.

③

Early evacuations of the very young and elderly might be likened to the London blitz of WWII when the children were sent out into the country.

④ Tho I didn't see the movie "The Warriors", I understand it involved the fact that
city taken. The police are greatly outnumbered by the bad guys. The movie took advantage of this
fact. Luckily, this hasn't happened yet, but consider the fact that we have one
cop for each thousand of population. In New York we have more bad guys than
that, and especially when such as the radicals are probably better armed. Of
course, if you count the honest citizenry along with the police, the bad guys are
vastly outnumbered by the good guys, but the honest citizenry isn't organized,
properly trained, or armed, or at least most aren't.

Evacuation, Plans for

1. Federal Plan due to Expected Nuclear Attack

Hopefully governmental agencies will have a plan, including notification, methods of transport and refugee centers. This especially important if you live inside a metropolitan area.

taken 2. Here in the basin, a very serious earthquake could bring about evacuation. It might be easier to take the people out to the desert than bring in supplies. Such evacuation would no doubt take some time.

3. Wide spread civil disorder would probably cause spontaneous evacuation.

4. Localized nuclear accident could cause partial evacuation.

5. Nuclear bomb detonated by radicals.

6. We worry about a Communist uprising, but polls show the average citizen is actually conservative, tho he may vote liberal. An election is really no proof of the voter philosophy. In 1978 California election they voted in a liberal governor and a conservative attorney general. If present trends continue, I can easily see an uprising of the middle class if their governmental representation don't change their ways soon.

To expand on the above, I can't really see too much reform brought about by electing new representatives and even the initiative process, where it is allowed, can be an idiot thing. If you have 10 people standing in a row, and you kick 1 in the butt, the other 9 will do nothing. Kick 3 or 4, and still probably nothing but complaining, but kick 6 or 7 and you'll get slaughtered.

Crop 13 is a fine example, and still 1/3 of the voters voted no. You have to directly affect a majority of the people before they'll rise up and do something.

The middle class is angry, and I'm going to kick every butt that presents itself.

LOCATION OF REFUGEE CENTERS

Such as an earthquake that would destroy utilities, shelter and supplies in a metropolitan area, would mean having to move the population to an area of refuge. In the book "The Age of Cataclysm" it is stated that the most likely areas of refuge in the world are already short of water for those that live there. The same would apply to many areas of this country, especially in the west. Even in areas where water is more plentiful, it is doubtful local jurisdictions could supply enough potable water for a very large number of refugees.

No doubt the evacuation of large numbers of people would have to be a "fun out" operation, to disperse the refugees among the unaffected population, or to such as national parks, resorts, or similar areas. Inland for seasonal influx of large numbers of people.

Efficient evacuations to a place of short term refuge, a few weeks, or even a few months, would require a survey ahead of time to determine areas of temporary or longer term refuge. All factors would have to be considered in such a survey, such as limits to the number of people that could be accommodated at any one location, and for how long. A city of 50,000 could not doubt accept a few thousand refugees with little immediate problem, but putting an extra 25,000 into the city could mean the quick demise of both host and guest. Remember, most cities probably do not have more than a 3 day food supply. Even if potable water can be supplied, food and other necessities would have to arrive with the refugees, or very soon after.

In considering the evacuation of a metropolitan area, such as the L.A. basin, with a population in excess of 10 million people, a fun out could easily extend well over 1000 miles. Remember, you are talking about moving 4 or 5% of the country's population, living in an area largely surrounded by a hostile desert. Just how many people could the rural and wild areas of the state of California support without immediately receiving food and other vital supplies.

CRISIS RELOCATION PLANNING — PRO AND CON

PRO

Robert Baffin

It is quite in order to consider a number of possible solutions for our civil defense and to weigh them carefully, taking into full consideration all their advantages and disadvantages, then to focus on one solution and implement it.

This was in fact done under the (Nixon Administration, and the selection was Crisis Relocation Planning (CRP). At that time American leadership, acting on the advice and analyses of many experts, made that choice for the American people.

as to a choice of say (1) a right end run, (2) a left end run, (3) over left tackle, (4) pass, etc. There are presumably good arguments for all of these. But once the decision is made to say go around right end and the play is put in motion those who advocated the pass must support the play being executed without reservation or the result will be certain disaster.

No team effort could survive any maverick attitudes.

In the same way, those who have been advocating in-place shelter

Germany, obeyed orders only if they were told *WHY* the orders should be obeyed. So, with apologies for repetition, the following advantages are among those for which CRP was selected by the Nixon Administration and for which it is now being continued by the Reagan Administration:

1. The Soviet plan to prepare for an exchange is to evacuate Soviet cities. Should this begin we would know about it quickly. That is certain.

... WE RISK "LOSING THE WHOLE BALL GAME."

When the Reagan Administration assumed its duties in early 1981 CRP was already several years old and much work had been done on it. A further evaluation was made in early 1981, and CRP was found to be based on sound policy. So step was not broken in the CRP effort. CRP remained on course, and is still on course today.

It is a tribute to the Reagan Administration that it saw fit not to undo all the work that had gone into CRP. CRP is in fact a non-partisan, military, strategic decision, and with that decision made and in force it behooves even former opponents of it to support it. Otherwise, as has been pointed out, we risk "losing the whole ball game."

One might liken the CRP decision to a crucial football play that has the potential of winning or losing the game. In visualizing such a situation before the game — or even at the last minute — suggestions are in order

(which had some good points to be sure) need to realize that our government has made the strategic decision to go with CRP and that in fact the CRP "play" is in motion.

To insist now that another course of action be taken is in fact like insisting on a pass play in the above football example when the running play has been decided upon, called, and put in motion.

In both cases a dissenting opinion is too late to be of any help — except to the opponents.

In the spirit of Baron Friedrich von Steuben, the Prussian general who came to the United States during the Revolutionary War to help George Washington, perhaps we should add one more item. Von Steuben complained that American soldiers, unlike those back in

2. Americans, with better transportation and better exit facilities can evacuate much faster than the Soviets.

3. A blast-shelter system was judged to be far beyond our means at the time of the original decision. With budgets now being drastically cut it is certainly much farther beyond our means today. CRP is a small fraction of the cost of a blast shelter project.

4. CRP is an established strategy. Its implementation is well underway. Logic dictates that we pursue it instead of changing in midstream to another concept that has been turned down as not being practical.

There are of course other arguments for CRP, but the above is a capsule version of the main issues involved.

We need now to close ranks. We need in the interests of national defense to get on with the CRP job.

CON

Kevin Kilpatrick

In the event of threatening international developments plans are to remove the President from the White House and Washington in a matter of minutes.

Good! It is vital that every possible precaution be taken for the safety of the President. Similar immediate action extends, as it ought to, to other elements of leadership.

Not good, however, is the contrast between the rush to protect leadership within a half hour or less and the bland assurance that four to seven days is a time-frame suitable for John and Jane Doe.

How come? There is this to say:

The four to seven day attack delay theory (where citizens are concerned) is based on the assumption that the Soviets will evacuate cities.

Evidence was presented 3½ years ago, however, that the Soviets at that time — 1978 — had enough urban shelter to give them the option of evacuating or staying put.

This, with the heavy Soviet accent on strategic surprise and a history of being willing to sacrifice people, appears to wipe out the four-day signal upon which CRP is based and *must depend*.

If the shelter-evacuation option existed in 1978, then with the continued and accelerated Soviet urban shelter development since that time it must certainly be even more valid in 1982.

An with further acceleration of urban shelter construction what will be the picture in 1985? In 1990? and in 1995? (The unfinished CRP will be even more incongruous at that time.)

Indeed, it appears that plans to evacuate Soviet cities will simply be shelved—except for propaganda use.

Or has this already happened?

At best CRP is tremendously complicated and vulnerable to multiple applications of Murphy's Law. Too, there are many problems such as evacuation of hospitals, homes for aged and ill, the handicapped, jails and prisons.

Complications only begin here. In a megalopolis CRP is its own contradiction. One Soviet-engineered false alarm would doom it for keeps.

With in-place shelter, however, such disadvantages are minimized or disappear. Government studies prove the point. Statistics show

the Americans and other NATO countries can also do it, should do it, must do it.

Cost is cited as the defeating factor in the blast shelter program. The quoted \$100 billion price tag looms as a threat to sacrosanct welfare programs. But the time has come for survival to outweigh welfare.

And \$100 billion is not necessarily the figure to be dealt with. For instance, by using a shelter type tested for blast by the Donn Corporation the cost can be brought to under \$20 billion. With the Reagan

AT BEST CRP IS . . . VULNERABLE TO MULTIPLE APPLICATIONS OF MURPHY'S LAW

that compared even to a fully effective CRP (an unlikely occurrence) the attack fatality rate would be *cut in half* with the use of blast shelters.

Staying close to home among familiar surroundings, near friends and neighbors, with access to emergency supplies, etc. is in numerous ways preferable to being at the mercy of the elements in remote locations (think of our 40-below weather this winter!).

Not that serious problems can be eliminated. A nuclear attack, even with sophisticated preparations, is a superdesperate life-and-death affair. Problems need to be analyzed, brought into perspective and provided with practical solutions in spite of difficulties.

Impossible? The Swiss have already done it. The Soviets have done it. The Swedes, the Finns and the Chinese have done it. The British are making passes at it. They,

policy of phasing out the federal nursemaid role shelter cost could be shared as they are elsewhere. Spread over a 5-year period the cost breaks down to \$4 billion a year total, with a federal share that can be substantially less than \$2 billion a year — even less than \$1 billion a year. Inducements such as tax breaks would provide workable incentives.

Is cutting anticipated fatalities in half worth the trouble?

To this add the new possibility of space and terminal active defenses — with further substantial cuts in fatality estimates — and the survival picture is brightened even more.

Such a program presents an aggressor with targets so poor and an attack so risky that it discourages a nuclear adventure to begin with.

All this makes CRP obsolete.

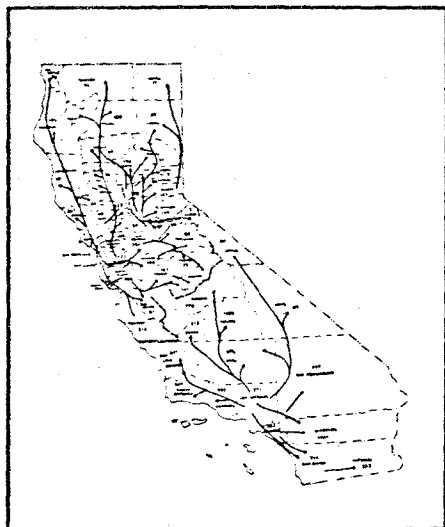
And — if pursued — the shelter program creates a new and practical road to peace. □

THINKING ABOUT:

CRP

Crisis Relocation Planning . . .

BY BRUCE D. CLAYTON, Ph.D.



This Crisis Relocation Plan for California depicts the routes by which residents would leave major population centers—Los Angeles and San Francisco—and the areas in which they would take shelter. The numbers indicate preliminary allocation of risk area population to host areas, in thousands of people.

You probably already know about Crisis Relocation Planning (CRP). You've heard that CRP is that idiotic "Civil Defense" plan designed to evacuate Los Angeles in the eight days between launch of Soviet missiles and arrival of the warheads. Worst of all, this is the plan to stuff your retreat cabin with dozens of useless city folk who will prey on your food supplies.

That was my opinion, too, before I took a careful look at the *real* CRP effort. In fact, I'm ashamed to admit that a year or so ago I published a scathing critique of the program based on "common knowledge" of its deficiencies. Common knowledge turned out to be a poor source of information, much of which originated with people whose loyalty to this nation is in doubt.

I was wrong about CRP—partly, that is—and I apologize to CRP planners. It's time survivalists took another look at this controversial topic. CRP has some beneficial aspects, even to survivalists, and though it also has glaring flaws, they are not the ones trumpeted endlessly through the liberal news media.

CRP (Crisis Relocation Planning) is based on Public Law 96-342, Septem-

ber, 1980, in which Congress created Title V of the Federal Civil Defense Act, and required the Civil Defense organization of each state and county to create:

"... a civil defense program providing for the relocation of the population of risk areas, including the larger cities, during a period of strategic warning resulting from an international crisis. . ."

Right away we can see the basis of two common misunderstandings about CRP. The first is that Congress required civil defense departments to write relocation plans for *all* major cities in the nation, without regard for the feasibility of such plans on a case-by-case basis. Civil defense planners are not stupid. They can see that relocation would be a more workable option in some places than in others. But the federal law says the plans must be written, good or bad, workable or not, for every major city. If you think it is idiotic to try to evacuate San Francisco, don't blame the planners. Blame Congress for a poor law. This is the fundamental flaw of the CRP program.

The second misunderstanding relates to the phrase "strategic warning." Strategic warning refers to international developments which seem to threaten war, such as a sudden large-scale evacuation of Soviet cities. One school of thought holds that we can evacuate our cities faster than they can because we have more automobiles, and, therefore, a Soviet evacuation followed by our CRP would result in a stalemate. From this point of view, our CRP program, by its existence, makes itself unnecessary. Proponents of this argument aren't very concerned about the practical aspects of evacuations, because they are certain that once the plans exist they will never be used.

As an aside, I should say that I don't buy that argument because I think the Soviets can evacuate most of their cities overnight by ordering everyone to walk out of town. Our nuclear war-

heads are very small, and it isn't hard to hike a few miles to get beyond their reach. Leave it to American strategists to assume that the fastest way to move a population a few miles is to put them in cars.

People who criticize CRP on the basis that there wouldn't be enough time to evacuate everyone from the cities overlook (or conceal) two important points. Congress specified that CRP should be designed for a period of *strategic* warning, not tactical warning. CRP was never intended as a quick-reaction program, and it's not honest to criticize it on that basis.

The second point is that *most* people can be evacuated from *most* U.S. cities in just a day or two. The claim that CRP would require several days focusses too narrowly on a few worst-case cities—Los Angeles, San Francisco, and New York. This really means that these cities require a different kind of Civil Defense program. Congress did not provide and has never provided, any money to create such a program. Again, don't blame the planners. Instead, give your elected representatives a piece of your mind.

What are the potential benefits of CRP to survivalists? First, the plans have forced local officials to think about nuclear war, something they generally hate to do. The furor over CRP, led by the anti-nuke activists, has created a rapid increase in nuclear survival expertise among civil defense professionals, who are normally preoccupied with flood fighting. They have become much better educated about nuclear war in order to resist anti-nuke attacks on their jobs. This makes it much easier for survivalists and CD professionals to relate to each other. This can be a very good thing.

Another good thing is CRP's impact on the national fallout shelter program. Before state officials can actually *plan* to move refugees to a particular host area, they must be able to show that the area has a sufficient number of fallout shelters to receive the newcomers. The host areas are being re-surveyed for fallout shelters at the federal government's expense. If the community knows that there are usable public shelters, there is less risk that the local survivalists will be attacked during a war scare.

The best thing about CRP, how-

ever, is that it is our only hope of coping with spontaneous refugees. I believe the President never will dare to officially invoke CRP, especially because the plans are not supposed to be ready until 1990 (after the "window of vulnerability" has closed!). Even so, the plans could still be useful. We know from actual experience that 40 percent of the American public suddenly heads for the hills during a nuclear scare, as Floridians did during the Cuban missile crisis. CRP planners are required to work out the logistics of sheltering, feeding, medicating and policing the relocated population. Those same plans could be used to help manage the spontaneous refugees and keep them out of trouble with the locals. As a "local," that sounds good to me.

CRP should be allowed to proceed, not because it will work as intended, but because it doesn't cost much and good things are coming out of it. In California there are only a handful of planners involved in CRP. Our best move at present is to leave the planners alone, get out of their way, and let them get back to their work. I know these men personally, and I can testify that they are intelligent, dedicated, and fundamentally honest. Their efforts to write the plans will eventually prove whether or not CRP can really work. But first we must let them write the plans, and for that the planners would appreciate a little peace and quiet.

So am I for it or against it? Let's say that I believe Congress has not defined CRP as a workable program. On the other hand, there are beneficial aspects to the planning process itself, and this process should be allowed to go ahead. The final decision of whether or not the plans are workable will have to be delayed until 1990 when we actually see the plans. ●

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The Editors.

THE COUNTERFEIT ARK: CRISIS RELOCATION FOR NUCLEAR WAR. Edited by Jennifer Leaning and Langley Keyes. Cambridge, Mass.: Ballinger Publishing Company (A Physicians for Social Responsibility Book). Cloth, \$29.95; Paper, \$11.95. 300 pages. Publication date: January 20, 1984.

— Reviewed by Richard Sincere

While there is still some controversy in the civil defense community about the efficacy of crisis relocation planning, none of us reject CRP outright. We point out its flaws, argue for more CRP funding, and offer alternatives. Physicians for Social Responsibility, on the other hand, in its never-ending battle to maintain America's vulnerability to enemy attack, has made CRP's flaws a platform for attacking the concept of civil defense.

In *Counterfeit Ark*, edited by Jennifer Leaning and Langley Keyes, the vast gulf separating PSR and groups like TACDA becomes more apparent than ever. For example, in Jerome Weisner's foreword, he says CRP (and by implication, all forms of civil defense) "is morally wrong; it is strategically wrong; and it is operationally wrong." Contrast this with TACDA's testimony before Congress last April: "Civil defense against nuclear attack is a *moral imperative, a political obligation, and a strategic necessity.*"

Some of the specific criticisms levelled against CRP by the various authors in this book deserve further examination. There are, indeed, valid points made which draw attention to some faulty assumptions made by FEMA planners and others. However, these criticisms should be taken into account not in the way Leaning and Keyes would like — that is, to give up the idea of crisis relocation entirely — but rather as a starting point for solving the very real problems which we must recognize can exist.

The basic deficiency in this book is that it examines civil defense in a political and social vacuum. Incredibly, it discusses civil defense and nuclear war without acknowledging our chief adversary, the Soviet Union. The authors make their arguments as though the threat which we face comes either from nuclear wea-

pons alone or perhaps from the Oval Office — but never the Kremlin. It is amazing to read 300 pages of text about nuclear war and to find no recognition that Soviet military doctrine stresses not only that thermonuclear world war can be fought and survived, but that it can be won. (Several writers do imply, however, that this is the belief of the Reagan administration; but this flies directly in the face of the facts and renders questionable any legitimate critical faculties on the part of Leaning, Keyes, *1 et al.*)

Strangely enough, the contributors to this volume suffer from the same deficiencies they attribute to crisis relocation planners. A common theme in the book is that the scholars and writers and engineers who have investigated the feasibility of crisis relocation are "too analytical": they break things down too much and simplify in order to get predetermined results; they neglect the "big picture." Yet in attacking these studies, the authors — particularly Donald Schon — commit the same sins: they analyze, nitpick, point out particular flaws, and generally come out sounding like the man at the scene of a car wreck. When the driver comes out unhurt and weeps for joy at his good fortune, the bystander says, "Yes, but it didn't cure your rheumatism, did it?" Under the pretense of scientific objectivity, Physicians for Social Responsibility masks its own biases.

Some particulars worth noting: Ex-admiral Noel Gayler, in the only mention of Soviet civil defense, makes no substantive argument against it but uses an argument from ridicule. Unfortunately for us and for Gayler, laughing at it will not make it go away. He further makes the ludicrous assertion that should we evacuate our cities, the Soviets will "retarget" evacuated populations — an idea inconsistent with Soviet military doctrine.

Philip Herr refers to the spontaneous evacuation of Three Mile Island, but fails to make the obvious conclusion that crisis relocation planning therefore becomes all the more necessary to prevent such chaotic events in a future crisis. He also assumes the only clue Americans will have that a crisis is imminent are statements from the White

House — as if American citizens would be oblivious to news reports on TV about Soviet troops marching into West Berlin, etc.

Herr further makes the assertion, often heard from PSR, that civil defense "could reduce the political urgency of achieving *real* means of avoiding rather than ameliorating the consequences of nuclear conflict" and that if we had effective and credible civil defense, our leaders' "reluctance to risk nuclear escalation might be reduced." Once again, as always, these statements are made without proof. Nowhere has Herr (or Caldicott, Geiger, or Leaning) drawn analogies from history, evidence from military strategy, or examples from current conflicts that protecting innocent civilians makes war more likely. They must be reminded that there is no contradiction between a commitment to civil defense and a commitment to conflict resolution. Defense, deterrence, disarmament, and diplomacy are all tools in the same arsenal to preserve international peace and stability while enhancing liberty and justice in this land and abroad.

On the level of absurdity, in a touching essay on the potential harms to children during evacuation or during war, Irwin Redlener argues that gangs of children "might band together and" contribute to "massive social disintegration." Again this ridiculous argument deserves attention only to the degree it (and the rest of Redlener's *mirutiae*) spurs us to make more thorough and effective civil defense plans.

The Counterfeit Ark is a shallow book that raises many questions but offers no answers or suggestions; in this it is more destructive than constructive, and may indeed lead us closer to nuclear war than any of us — TACDA or PSR — wish. In the words of another contributor to the volume, linguist John Haj Ross: "I could go on, but I think that if my point has not been made already, further analyses of [this book] or of similar ones, will be superfluous." (See ad, page 3.)

Disasters

**The Weekend
Nuclear Exodus**

After the accident at the Three Mile Island nuclear generating plant last spring, according to reports now coming in from telephone surveys of residents, as many as 60 percent of the people within a five-mile radius left. The orderly exodus included many more people than the pregnant women and preschool children whose evacuation was ordered officially—yet it might not have been as large if the accident had not happened just before a weekend, when people could easily leave their jobs and keep their children out of school.

A number of researchers realized the significance of the accident almost instantly, and started collecting information during the first weekend of trouble. Ray Goldstein, a sociologist studying how the accident affected young mothers, took out a personal loan to cover the expenses of doing surveys that he realized would take months to be funded officially. The first telephone survey results came from Cynthia Bullock Flynn, a sociologist with a private research firm working for the Nuclear Regulatory Commission: at a recent special session on the growing field of "Three Mile Island Studies," sponsored by the Pennsylvania Sociological Association, reports came from Martin H. Smith, a sociologist who was 19 miles from the plant at Franklin and Marshall College when he did his poll, and from Donald B. Kraybill and two colleagues at Elizabethtown College, 7 miles away.

Departures peaked on Friday, two days after the first news of trouble. In part, anxiety built up on that day with news of escaping radioactivity and a possible hydrogen bubble, but many people postponed their decision until the week's obligations were over.

Other people reluctant to move, the new studies found, were most likely to be elderly, to have comparatively low levels of education, and to have relatively few misgivings about the information they were getting from the Metropolitan Edison Company, operator of the plant. Some people decided not to leave after all, once they had made such preparations as filling the gas tank of their car or taking their children out of school: the preparations apparently were enough to calm them down.

Conflicting reports of how serious the initial damage was played a role in keeping residents from leaving all at once, and roads were not jammed. The evacuation bore few earmarks of the terror-stricken stampedes that journalists and some scholars have reported, incorrectly, ever since a 1940 study of reactions to Orson Welles's radio drama "War of the Worlds."

The study had reported news accounts that "women and children ran screaming from their homes . . . highways were jammed with fleeing motorists throughout the Northeast." In fact, recalculations of the data showed that only about 16 percent of listeners believed the "war" was real; many people checked it out simply by tuning to another station. According to Russell Dynes, a sociologist and expert on evacuations who headed a panel on the topic for the Kemeny commission investigating Three Mile Island, over 40 evacuations take place each year in the U.S. because of natural disasters or man-made ones like leaking industrial chemicals. Although some involve up to 500,000 people (when a hurricane hits the Gulf coast), most go smoothly.

Still, people were upset. Other studies have found that the average level of emotional "demoralization" peaked at a point as high as that shown by patients under care for chronic emotional problems. Even hospital workers joined the exodus: approximately 15 percent of the workers at the Hershey Medical Center, six miles from the reactor, stayed away from Friday until the following Wednesday because of the accident, Goldstein found.

As in most evacuations, people did not rush to emergency centers: 90 percent stayed with relatives or friends (evacuees sampled by one of the studies went an average of 100 miles). People came back after an average stay of five days, chiefly, they said, because they heard official reports that the worst was over, but also because they were drawn by their job responsibilities. Their short stays, Dynes says, parallel the behavior of women and children who were ordered out of London during the World War II blitz: most stayed for such a short time that at one point, evacuees were returning to London faster than new ones could be shipped out.

Dynes says the Three Mile Island results show that people probably can be smoothly evacuated from the most likely kinds of nuclear-generator accidents: those that provide some warning before a problem gets severe and involve fairly brief releases of short-lived radioactivity. The studies provide few hints, however, for planners now pondering what would happen if an accident worse than the one at Three Mile Island occurred in one of the several dozen nuclear plants near densely populated areas, accidents that would require a sudden, wholesale evacuation. Nor do they shed light on what might occur if releases of long-lasting radiation forced evacuees to stay away from their homes for months.

—Christopher T. Cory

Goldstein is at the U.S. Health Care Financing Administration, Oak Meadows Building 1F3, 6340 Security Blvd., Baltimore, Md. 21207. Flynn is at Social Impact Research, Inc., Areis Building, Suite 427, 2366 Eastlake Avenue East, Seattle, Wash. 98101. Smith is now at the C. W. Post Center of Long Island University, Greenvale, N.Y. 11548; Kraybill is at Elizabethtown College, Elizabethtown, Penn. 17022; Dynes is executive director, American Sociological Association, 1722 N Street, N.W., Washington, D.C. 20036.

3

To Flee or Not to Flee

WITH APOLOGIES to Shakespeare, the title I have used for this chapter directly poses the key question of all survival planning. To flee or not to flee? Run or stay? Retreat or dig in? To continue to paraphrase Hamlet, is it better to sit still and take it or to get out of the way? Well, it depends.

This chapter is intended to help guide you in selecting among several difficult alternatives in your personal survival planning. In the case of a nuclear war (or some other massive disaster you may have in mind) will you be better off staying at home or would it be better if you evacuate to another area? If you decide to stay, what will you need to do in order to secure your position at home? If your decision is to evacuate, where will you go? How will you get there? Should you drive, hike, sail, or fly? Would it be better to evacuate now, immediately, or wait until the last minute? How will you know when the last minute is at hand?

These are some of the difficult questions every group of retreat planners faces at first. The answers depend mainly on your personal situation. Where you live, how many people are in your group, and how much money you can spend will all affect the decisions. The only area which is completely up to you is how much effort and inconvenience you are willing to tolerate in the name of security. You could move to Bora-Bora and be completely safe from nuclear attack, but in exchange for that security you would have to give up frequent trips to the movies, the grocery store, and your doctor. Where do you draw the line? That's up to you.

Predicting Nuclear Danger Areas and Fallout Patterns

In Appendix A you will find a map and a list describing over 1,500 nuclear attack high-risk areas defined by the Defense Civil Preparedness Agency (and which I have updated). These include 1,054 missile silos which are listed as aggregated "complexes." Areas subject to extremely high fallout are also indicated.

You should check to see if your home or potential retreat location appears on this list. You may be surprised to discover that many nuclear targets are located in remote corners of National Forests, etc. It would be better to be surprised now while looking over the list, rather than later . . .

The target list is divided into primary, secondary, and tertiary targets. Primary targets are mainly Strategic Air Command missile and/or bomber bases and support facilities. These targets will be hit within minutes of the outbreak of the war. Secondary targets are industrial or governmental targets and may be hit immediately or may be designated for attention by Soviet bombers several hours after the first strike. Tertiary targets are centers of civilian population. These targets probably won't be hit in the first strike.

As I mentioned in chapter 2, predicting where the fallout from a particular target will go is a shaky business at best. It is impossible to know what direction the wind will be blowing in the 40,000- to 50,000-foot layer at the moment of detonation, and for this reason, most people simply give up on the whole idea. This is a mistake. Although you can't accurately predict where the fallout will go, you *can* do a pretty accurate job of figuring out where it *won't* go. Since retreaters are usually more interested in locating safe areas than danger areas, the mapping of fallout-free locations fits in very well with their needs.

First let's establish some fundamentals. The basic idea here is to plot on a map all the areas near your home (or your proposed retreat) which probably will *not* receive any local fallout from targets nearby or in surrounding states. By "probably will not receive any local fallout" I mean those areas where the probability of any particular spot receiving fallout is less than 2 percent. If you build your house or retreat encampment in such an area, you could expect to receive fallout once in fifty nuclear wars. Good enough?

The next question is, what do we mean by "fallout?" For the special purposes of this discussion, I have arbitrarily defined fallout as sufficient local fallout to produce 150 rem of radiation exposure in the first two weeks following the attack. If you get less fallout than that, you will be in little danger, because even the most modest protection will cut your exposure down to negligible levels; even without protection, the consequences of such radiation would not be too serious. If your area receives more than 150 rem in the first two weeks, you will have a radiation problem, and some more sophisticated measures will be needed to insure your survival. Therefore we will be mapping areas that have less than a 2 percent chance of receiving more than 150 rem in the first two weeks.

The next question has to do with the targets that will produce fallout. The actual selection is up to you, although Appendix A will help guide your decision. Real-life predictions should involve consideration of local fallout coming only from missile silos and certain key military targets with hardened facilities. These include bases located near Omaha, Nebraska; Riverside, California; Washington, DC; Colorado Springs, Colorado; and possibly the submarine bases at Bremerton, Washington, and Charleston, South Carolina. It is a virtual certainty that the other primary targets (mainly SAC bomber bases) will be hit with air bursts and will produce no fallout.

If you are the kind of person who believes that the Soviets will try to generate as much fallout as possible and will hit as many military bases and cities as possible, you are welcome to go to the extra work of taking all targets into consideration, but I suggest that you not bother. Under those circumstances there aren't any totally "safe" areas worth mentioning. If you are more interested in real-world predictions, however, you can rapidly eliminate your local danger areas and concentrate on safer locations.

Who knows where the wind blows? Several years ago the DCPA compiled "effective wind direction" data for the fallout-carrying layers of the atmosphere over forty representative cities throughout the United States. It found that fallout would almost always be blown to the east of any target. When the high-altitude winds were moving very slowly, the wind direction was usually between north-northeast and south-southeast. At normal speeds—around 50 or 60 miles per hour—the wind direction was usually between northeast and southeast. At higher speeds, the range of variation was even less, roughly between east-northeast and east-southeast.

The DCPA people were kind enough to supply me with the raw data from this study in "windrose" format, which gives the exact percentage of time in which the fallout would be blown a particular direction at a particular speed from any of the forty cities. I used these data

to define the directions from each city which could be expected to receive fallout more than 2 percent of the time. Most cities had three such fallout sectors, corresponding to 20, 40 and 60 mile per hour wind speeds. In addition, several cities had a fourth danger sector produced by rare winds over 80 miles per hour. These sectors are listed in Appendix B.

Once you know in what direction the fallout may be blown, how do you know how far it may go? This was a difficult question for me to investigate because the sources disagree, sometimes by very wide margins. The "problem" lies in the fact that the Atomic Energy Commission did not want to kill thousands of people with their tests and therefore avoided creating too much fallout in their Nevada explosions. The Pacific tests did generate plenty of fallout, but almost all of it fell into the sea before anybody could measure it accurately. This leaves us with theoretical models which differ from one another almost as much as they differ from real life.

Eventually I selected two sources of information about the downwind extent of the 150 rem exposure area at two weeks. The first, of course, was Glasstone's *The Effects of Nuclear Weapons*.¹ The second was the DCPA publication *User's Manual, Meteorological Data for Radiological Defense*.² As you will see in comparing the two sources (in table 6), the DCPA figures indicate downwind travel of fallout about one and one-half times as great as the Glasstone figures. Both presume 50 percent fission surface bursts. Which set of figures you decide to use is largely a matter of opinion. If you assume that Glasstone is right, then the DCPA figures represent a substantial margin of safety. If the DCPA figures are right for 50 percent fission, then the Glasstone figures are very close to correct for 30 percent fission, which is a real-world estimate of the actual fission content of the bombs.

I prefer to use the DCPA figures for 1-megaton fallout and Glasstone's figures for the 10-megaton fallout. On one hand, I know that I'm not overestimating the smaller fallout danger areas, which is the safe thing to do. On the other hand, using Glasstone's figures for the 10-megaton patterns assures me that I am not underestimating them by real-world standards, nor am I overlooking potential retreat areas by exaggerating the fallout danger radius. This is a real problem in terms of the Minuteman silo fallout; if you use the DCPA figures, the danger radii are so large that nothing east of the Rocky Mountains could be thought of as a safe area. That makes retreat planning difficult, to say the least.

Mapping Fallout-safe Areas

The following paragraphs describe the method of mapping fallout safe areas within the United States.

Get a folding United States highway map, such as

TABLE 6
150 Rem Radiation Exposure Distances

WIND SPEED	MILES OF TRAVEL			
	1 MEGATON		10 MEGATON	
	<i>Glasstone</i>	<i>DCPA</i>	<i>Glasstone</i>	<i>DCPA</i>
<i>mph</i>				
20	115	140*	290*	335
40	165	265*	430*	650
60	210	310*	510*	830
80	250	340*	590*	1,000

*These estimates are preferred. (Distances indicate areas from the target at fourteen days.)

the one produced by the American Automobile Association. It is important that the map be relatively large and that it include the whole country, exclusive of Alaska and Hawaii. (Residents of these states can make do with a state map.)

Refer to Appendix A. Mark a circle on the map that encloses the entire area within 1,000 miles of your location (or the proposed location of your retreat). Plot the locations of all missile fields within this circle. (The missile fields are located exactly in Appendix A; generally, these may be found in the following states: Montana, North Dakota, South Dakota, Wyoming, Nebraska, Colorado, Kansas, Missouri, Arkansas, and Arizona—see also figure 7.)

Draw another circle on your map, this time enclosing everything within 350 miles of your home or retreat site. Within this circle, plot the location of all primary, secondary, and tertiary targets. Use a "1" to designate primary targets, a "2" for secondary targets, and a "3" for tertiary targets.

Now consult the list of forty cities in Appendix B, and check off the names of the cities on the list which fall within your two mapped circles. Mark their locations on your map.

Next, carefully plot the fallout danger patterns for each of the cities which you checked in the last step. You will draw these patterns on a separate sheet of paper, cut them out, and use them as tracing templates in plotting the danger regions on your map.

Figures 5A-5F show you how to construct the fallout danger zone for Albuquerque, New Mexico, following a 1-megaton surface burst in that city. The same procedure can be used with any of the remaining thirty-nine cities listed in Appendix B.

Figure 5A: The easiest way to plot fallout patterns is to use "polar coordinate" graph paper. You can use blank paper, a protractor, ruler, and compass if you like, but the graph paper helps. The very center of the concentric circles on the graph paper will be the location of the target—Albuquerque in this case. Write in the directions of north, east and south. (In most cases you won't

need to put in west, because the fallout won't go that way.) Now label the radial lines with their "degree" designations. The line running due north from the target is 0 degrees. The line running east is 90 degrees. Due south is 180 degrees. The number of degrees increases as you travel clockwise around the circle.

Now, how far will the fallout travel downwind? For this example I have used the DCPA estimate for a 1-megaton surface burst: according to table 6, the fallout will travel 140 miles at 20 miles per hour wind speed, 265 miles at 40 miles per hour, or 310 miles at 60 miles per hour. Check the legend of your map to see what the scale is. It may say "One inch equals approximately 100 miles"; this means that the 140-mile distance will be a radius of $140/100 = 1.4$ inches. A distance of 265 miles reduced by the same method is 2.65 inches, and 310 miles becomes 3.10 inches. If the scale on your map is not 100 miles to the inch, the method still works. Divide the distance concerned by the map's scale to get the inches of distance on the map. Then draw in three arcs representing 140, 265, and 310 miles on your graph paper. You are now ready to start plotting the danger areas.

Figure 5B: Referring to Appendix B, you see that the 20 mile per hour danger zone for Albuquerque extends from 25 degrees to 175 degrees clockwise. Draw two vectors from the target out to the 140-mile line. This wedge-shaped area is where the fallout from Albuquerque will most probably be deposited when the high-altitude wind speed is 20 miles per hour.

Figure 5C: From the table in Appendix B, you see that the fallout danger area for Albuquerque ranges from 45 degrees to 145 degrees clockwise when the wind speed is 40 miles per hour. Draw in these vectors and extend them to the 265-mile line. This is the area where the fallout will most likely be deposited when the high-altitude winds are blowing at 40 miles per hour.

Figure 5D: At 60 miles per hour, the winds deposit the fallout within an area from 55 degrees to 105 degrees clockwise, extending to a range of 310 miles. (Notice in Appendix B that there is no danger area listed for Albu-

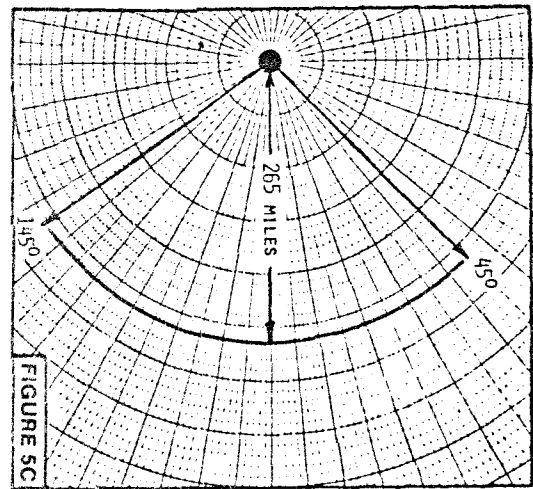
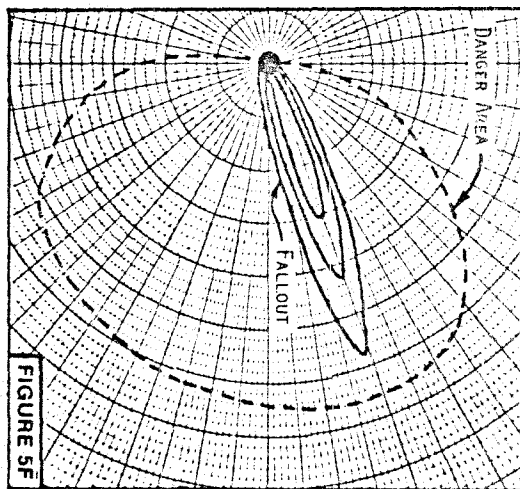
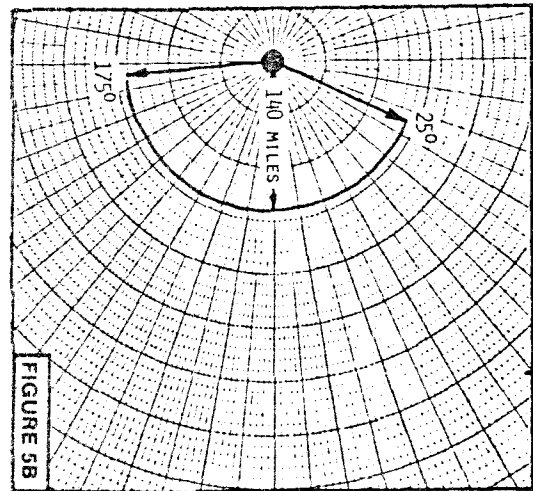
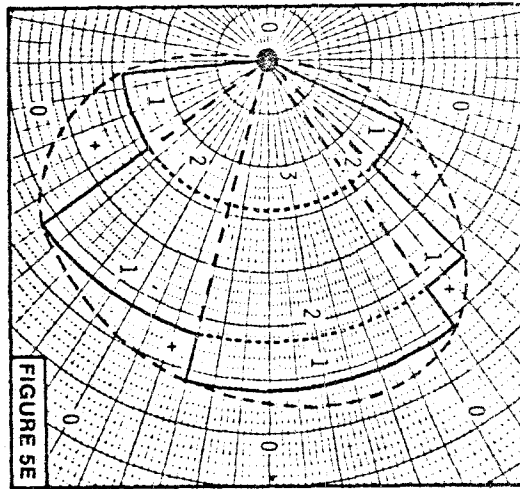
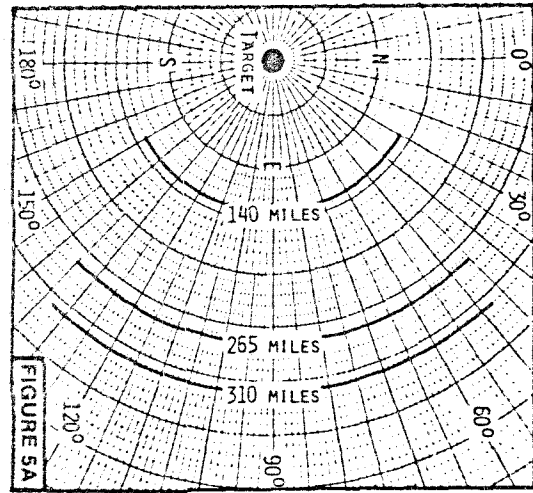
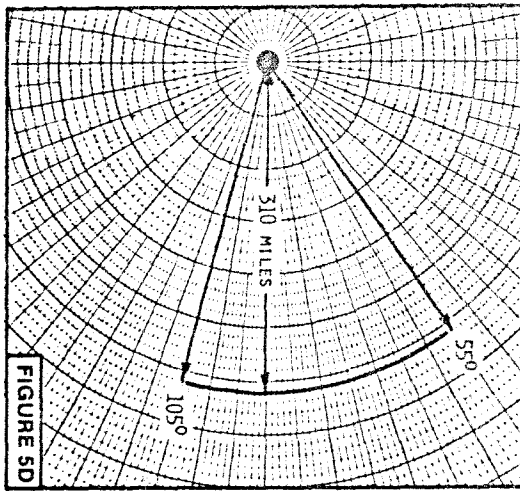


FIGURE 5: Construction of Fallout Danger Area Template.

querque in the 80 mile per hour wind category. In some cases you would have to draw a fourth danger area for the 80 mile per hour winds.)

Figure 5E: In this figure all three danger areas have been plotted together. The 20, 40, and 60 mile per hour danger areas are superimposed in the diagram. The next step is to draw a smooth outline around the ragged and angular pattern of wedges you have constructed. This step will reflect the fact that the winds blow at all the speeds between 20, 40, and 60 miles per hour, too. This outer dashed line represents the total danger area for fallout from a 1-megaton surface burst occurring at Albuquerque.

Figure 5F: Here the outline of the total danger area has been plotted along with an idealized fallout pattern. Notice that the area covered by the fallout pattern is much less than the total area within the danger zone. The danger zone simply represents the extent of places where the fallout *could* come down. As figure 6 indicates, the predicted danger zone for the Nevada test site far exceeded the actual location of fallout.

Reconsider figure 5E for a minute. You may have wondered what the numbers were all about. It is not easy to predict the relative risk of living at different locations within the total danger area, but by checking to see how the 20, 40, and 60 mile per hour danger areas overlap, you can get at least a rough estimate of the hazardous locations. The numbers refer to how many of the three individual danger areas overlap each section of the diagram. The wedge-shaped area directly to the east of the target is overlain by all three patterns and has the best chance of receiving fallout. Areas overlapped by only two patterns are not quite as dangerous, and those within only one pattern are safer still. Areas marked "+" are probably within only one pattern. Areas marked zero are judged safe. This method of sub-dividing the danger zone is not statistically sound, but for crude approximation it can be very useful. Note that this method also applies to situations where overlapping fallout from more than one target is a possibility.

There are a couple of important exceptions to be aware of in plotting fallout danger areas by this method. The first is that some cities in the southeastern part of the country have a second danger area listed for wind speeds in the 20 mile per hour category. Sometimes in the spring and summer, the wind blows slowly to the west in these locations. This produces fallout danger maps with a short, stubby "tail" sticking out to the west. The pattern shown for Charleston, South Carolina in figure 7 is one such example.

Another exception has to do with 10-megaton fallout patterns. At extreme ranges (such as those 600 to 1,000 miles downwind) the exact limits of the danger area are very unreliable. The fallout cloud will almost certainly change direction and speed somewhat before

traveling that far. The danger area calculated for 10-megaton fallout using this method is only useful for *general* planning. Don't make the mistake of feeling safe just because you are 1,001 miles from the target. You can't cut it that fine.

I have adopted the expedient of using a 10-megaton pattern as a model for the fallout that will be generated by the destruction of missile silos. There will actually be much more fallout generated by these explosions than a 10-megaton figure would indicate, but the explosions will be spread over such a wide area that you need only worry about 10-megaton's worth passing over you at any particular point downwind. To figure the danger areas for a missile field, just plot a 10-megaton pattern from the edge of the missile field that is closest to you. If the line misses you, you are probably safe.

Now that you have drawn the danger pattern templates you will need for your area, carefully cut them out. You can use these cut-out shapes to plot the danger area boundaries for any target on your map. To draw the danger boundary for a particular target, select the template from the nearest city to the target, place the "target" spot on the template over the target location on the map, line up the east-west line on the template with the east-west line on the map, and carefully trace a line around the edge of the template. Your map now shows where the fallout from that particular target is likely to land. Draw the fallout danger areas for all the missile fields on your map and also for any primary or secondary targets that you suspect will be hit at ground level. (Most of them won't be.) When you are done you will have mapped the dangerous and safe areas near you, and you can proceed to your selection of a retreat site, a new neighborhood, or escape route.

What does this method of mapping fallout tell us about the situation in the United States following a hypothetical attack? Figure 7 is a map of the probable fallout areas in the United States following a real-world attack on military and industrial targets (see also figure 2). As you can see, most of the country is in little danger from fallout. And as noted, even within the plotted danger areas only a small proportion of the area will actually receive fallout. Even so, anyone who lives in the Central Time Zone should give serious consideration to digging a deep fallout shelter. The Dakotas, Nebraska, Kansas, Iowa, and Missouri are clearly in more danger than the rest of the nation.

Notice in figure 7 that the areas outside the fallout danger regions are "safe" only in the sense that they will receive no fallout. There are two or three hundred fairly important targets in the rest of the country which would not generate fallout but which would not be safe to be near.

Figure 8 is a map constructed for the pessimists among us. This map shows "safe" refuge areas under

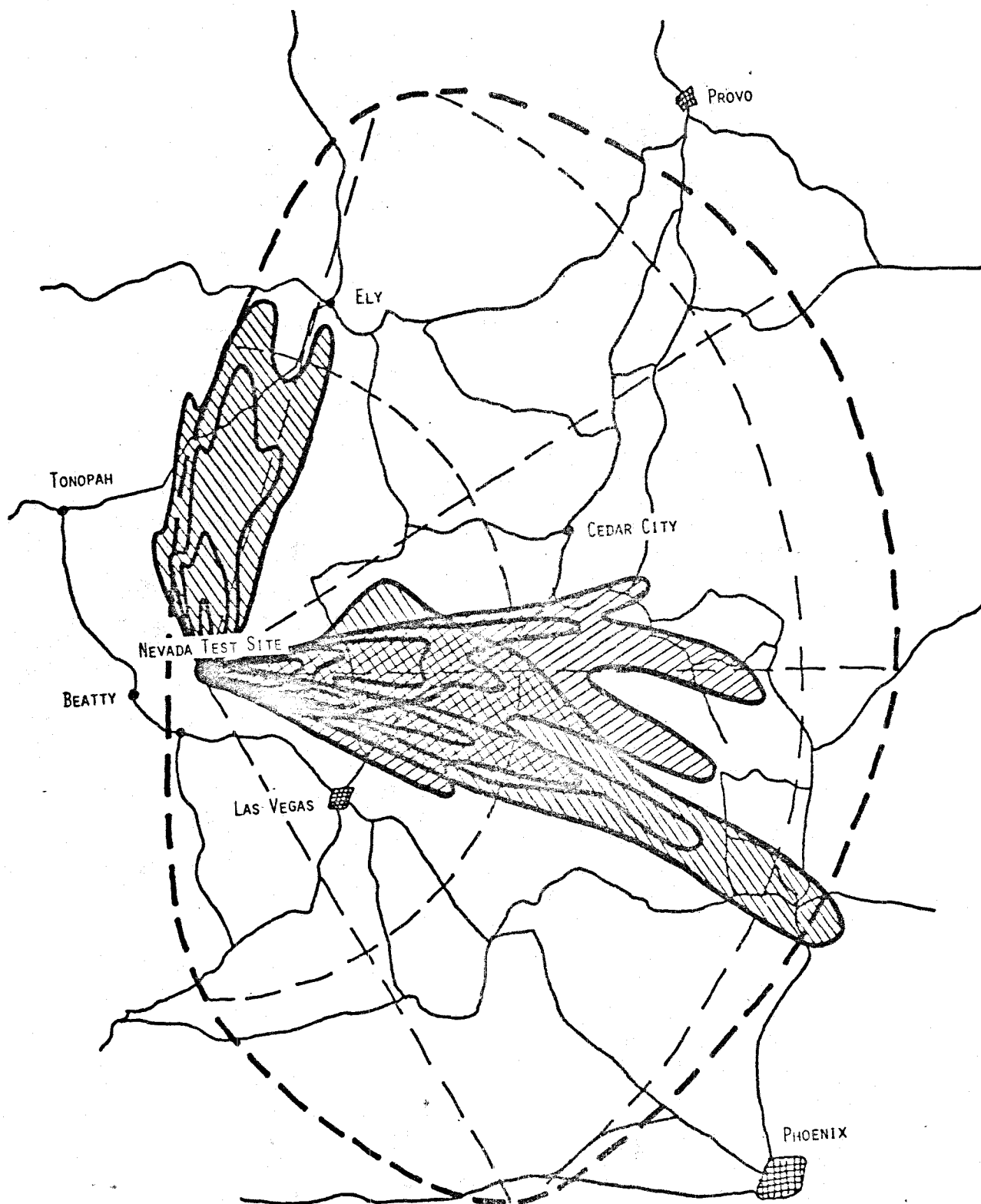


FIGURE 6: Predicted and Actual Fallout Patterns. Patterns illustrated by dashed lines were calculated by the method described in the text for the Nevada test site. These are overlain by three patterns

indicating actual areas which received fallout. (Actual patterns after those pictured in *Radiological Defense Handbook*, Defense Civil Preparedness Agency, June 1974—SM 11.22 2.)

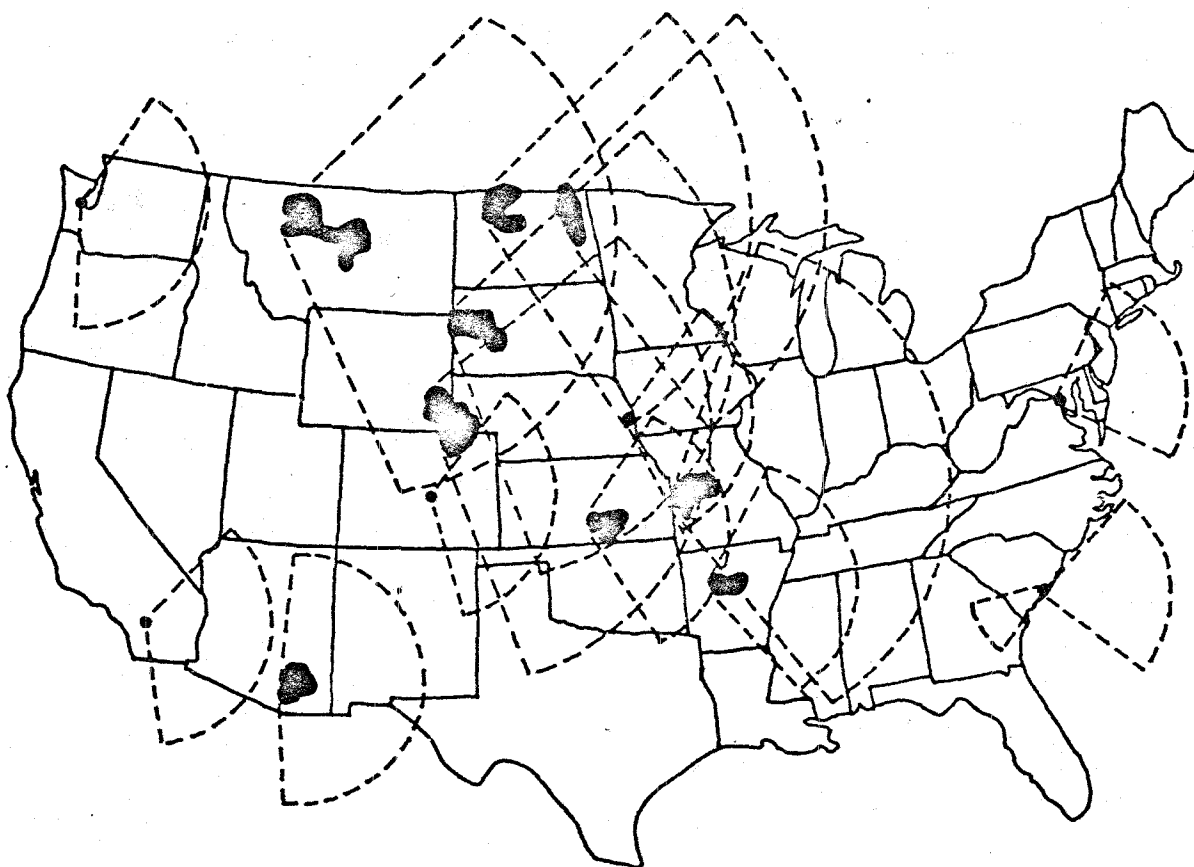


FIGURE 7: Fallout Danger Areas in the United States. As calculated by the method described in the text, areas enclosed by broken lines will receive most of the fallout generated in a realistic attack by the Soviet two "doomsday" assumptions, namely that all primary targets will be hit at ground level, or, alternately, that every target in the country will be hit at ground level.

If all the primary targets are hit with fallout-generating ground bursts, there will still be a selection of potential refuges where the probability of receiving fallout from any particular target is under 2 percent. I refer to these areas as "Type A" refuges. One of the largest of these refuges is in western Canada (area 1). If you like foreign travel, you might dodge to the north. Within the United States, the Pacific coast from San Francisco to the Canadian border will be fairly fallout-free, including a sizable chunk of east-central Oregon (area 2). Near Los Angeles, the safest fallout refuges are the Channel Islands (area 3), forty or more miles off the coast. People who routinely sail to the islands on weekends might decide to take an extended vacation if things start to look bad.

There are Type A refuges in Nevada, Utah, and Arizona (area 4), Colorado and New Mexico (area 5), the Big Bend area of Texas (area 6), and the southern tip of Texas from roughly San Antonio south to the Mexican border (area 7). Much of Mexico itself (area 8), of course, will be fallout-free.

Union. Targets which generate fallout are missile silo fields and a few special military bases. (Compare to figure 2.)

The refuges numbered 9, 10, and 11 are "Type B" refuges. These aren't really good refuges, but considering the circumstances, they are the best the central part of the country has to offer. Assuming that they receive no missile field fallout, the probability of getting fallout from other primary targets is under 2 percent for these areas. That's the best I can do for the Midwest.

On the east coast there are four refuges. The northernmost is in upstate New York (area 12) and extends across the Canadian border into Ontario. This is the only portion of civilized Canada east of Alberta which is unlikely to receive fallout from United States targets (under the assumption that all primary targets will be hit at ground level, of course).

Area 13 is in southern Virginia and North Carolina. This is roughly where our national leaders have *their* special fallout shelters, complete with offices, dormitories, cafeterias, tennis courts, and the communications equipment necessary to run a country (and a war) from deep underground.

Area 14 extends along the Gulf Coast from New Orleans across the Florida peninsula to Jacksonville. The last Type A refuge (area 15) lies between Fort Myers

and Fort Lauderdale, just north of the Florida Everglades.

The Type A and Type B areas assume that all primary targets will be hit at ground level. What if *all* domestic targets are hit at ground level?

In that case, the probability of getting fallout in the Type A and B areas rises to the point that they cannot be considered refuges any longer. In the case of an all-out, *genocidal* attack on our country (which is extremely hard for me to envision) only the "Type C" areas will still have less than a 2 percent chance of getting dangerous levels of fallout. There are only three such refuges. The first is in western Canada (area 1), the second is around the Oregon-California border (area 2), and the third is in Mexico south of Monterrey (area 8). All of these areas, of course, are also Type A refuges.

As this book was going to press, Congress allocated funds for the development of the controversial MX missile. This is to be a system of 200 land-based missiles mounted on mobile platforms. The idea is that each

missile can be moved constantly from one random position to another within a ten-mile long trench, making Soviet targeting problems hopelessly complex. In my opinion, this project is sheer folly. I strongly suspect that the Soviets will respond by developing the capability to pulverize the entire length of each trench. Only their technological limitations and the SALT treaties would hamper them in this goal. Since the MX system is the "answer" to the Soviets' rapidly developing ability to hit every Minuteman missile silo, it doesn't seem likely that missile technology will hinder them much in coping with the MX system. I may be old-fashioned, but I don't think the treaties will hinder them much either.

At present, the MX trenches are to be built on government lands in the states of Nevada, Arizona, Utah, and New Mexico. If these trenches are ever attacked, they will generate twice the overall amount of fallout we would expect to see from existing silos (because it will require several warheads to destroy each trench). The impact on survivalists in the southern

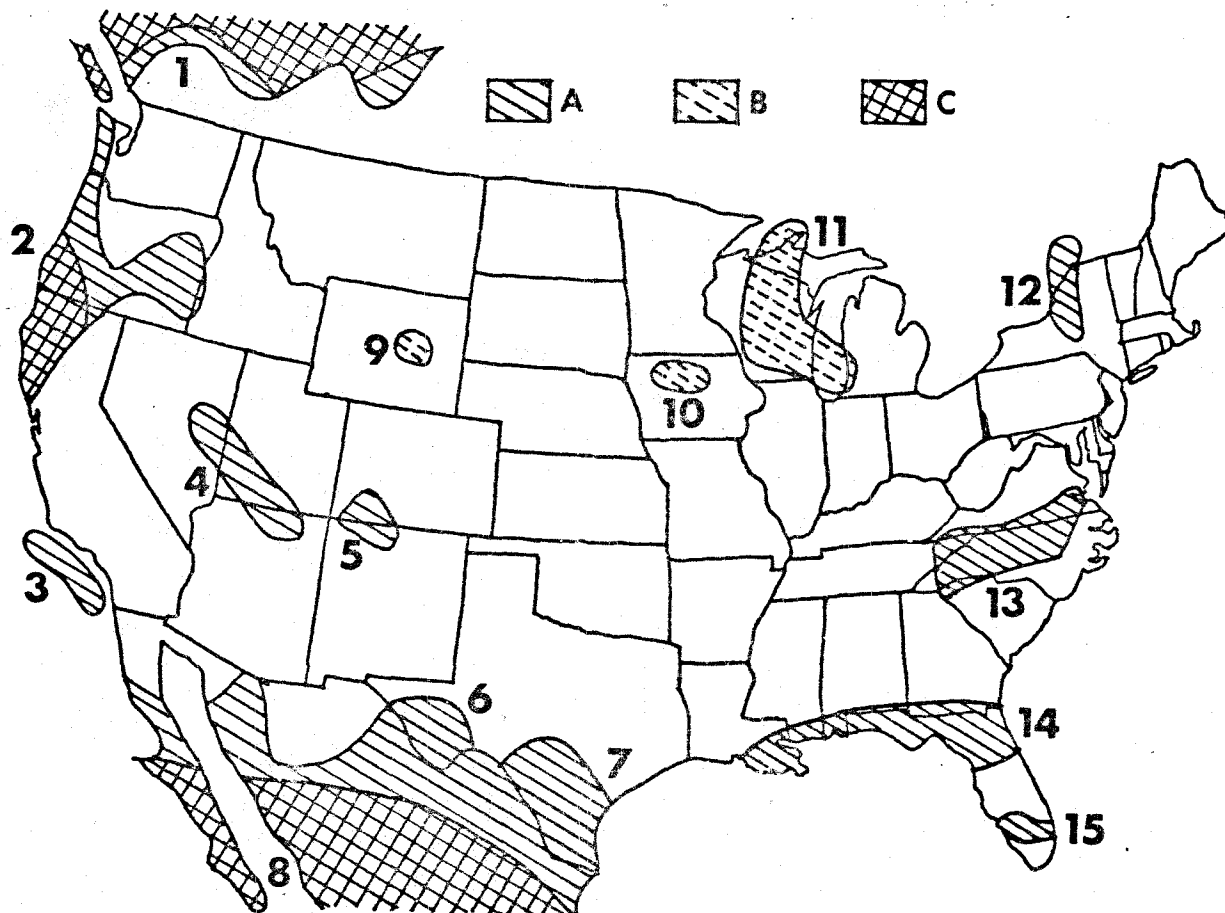


FIGURE 8: Fallout-free Areas of the United States. Type A refuges have less than a 2 percent chance of receiving fallout if all primary targets are hit at ground level. Type B refuges are unlikely to receive

fallout other than that generated in nearby missile fields. Type C refuges are unlikely to receive fallout even if all domestic targets are hit at ground level.

Rocky Mountain and south-central states will be severe. If the MX missile reaches the deployment stage, it will mean that there will be no fallout-safe refuges in the southern half of the country from the California border to the Mississippi River.

Still, I want to be sure that you have not lost your perspective while looking at these maps. These refuges are not the *only* safe places to be when the fallout starts. *Even under the worst assumptions most of the land area of the country will escape lethal fallout exposure.* However, it is only in these refuge locations that you can be confident that you personally will be missed. Outside of the refuges you might be missed by the fallout, or you might not. But don't forget that if the fallout does happen to descend in your area there are still many steps you can take to protect yourself.

Personal Decisionmaking

The series of decisions you will need to make before starting your disaster planning are presented in the form of a dichotomous key—the “Key to Survival.” This is a sequence of questions in which the answer you choose to

a particular question tells you which question to ask next. Eventually, the questions lead you to a suggested type of disaster planning which fits your particular situation.

Using the key is simple: look at question 1, “Is your primary concern a nuclear war?” If it is, you proceed to question 2. If not, you skip straight to question 23. Keep following the instructions given in each entry and the key will lead you to the information appropriate to your needs.

The Key to Survival

1. Is your primary concern a nuclear war?

Yes—2. No—23.

2. Consult Appendix A to locate the nuclear targets in your state and adjacent states. Do you live within ten miles of a primary target (twenty miles if the target is listed with an asterisk)? *Yes—3. No—14.*

3. Are you willing to permanently move to a safer area? *Yes—4. No—7.*

4. Would you rather move to a local area that is just out of range of the primary weapon effects, or would you rather make a major move to a really safe part of the country? *Major move—5. Local move—6.*

5. Most retreaters seem to consider the Klamath region of northern California and southern Oregon as about the safest place to go to avoid direct weapons effects, fallout, and starving refugees. Actually, many other parts of the country are “safe” too, if you assume no fallout except from the missile fields. Even if the Soviets hit all primary targets using surface bursts, there are still many parts of the nation which have less than a 2 percent chance of receiving fallout. At this point you should select a possible area to move to and start over again at 2, answering each succeeding question as if you live in your prospective refuge location. This will help you determine if you have selected wisely.

6. You will have to analyze your situation carefully to select a local neighborhood where your risk from direct weapons effects and fallout will be minimal. As a first approximation you should consider moving to a location northwest of the target. If the target is a single military base, such as a SAC bomber base, a distance of 25 miles should be sufficient to preserve you from very much direct damage. For a Minuteman missile complex, however, I would suggest a 100-mile minimum to the west, and 500 miles to the north, south, or east. The fallout generated by 400 or more megatons detonating at ground level is extensive. Select your new location and then return to 2. Start again and answer each question as if you lived at your selected location.

7. You live within ten (or twenty) miles of a primary target but don't want to permanently move somewhere else. In the case of a nuclear attack, would you prefer to dig in at home or evacuate on warning?

Dig in—8. Evacuate—9.

8. You will need to study chapter 2 and chapter 4 very carefully to select an appropriate fallout/blast shelter for your location. Be sure to allow for the fact that your house may collapse and burn, which means that it would be better to locate the shelter outside. If your problem in finding an appropriate shelter is too difficult, I suggest that you reconsider and decide to evacuate. The whole point of retreating is to avoid sitting

on the bullseye when the missiles start to fly.
Still going to dig in—46. Evacuate—9.

9. You live within ten (or twenty) miles of a primary target and you intend to evacuate in the event of a nuclear attack. The next question is obviously . . . where? This in turn depends on *when* you will evacuate. *Before the attack—10. After—13.*
10. Are you willing to evacuate at the first sign of danger or will you wait until the last minute? *First warning—11. Last minute—12.*
11. In general, you can expect to be forewarned to the extent of knowing a day or two ahead of the time of an attack (remember the days of tension during the Cuban missile crisis). If you are willing to head for the hills as soon as things start to look hot, you can plan on driving to a refuge which is as much as ten to twelve hours away. The same time limit applies to flying, but of course the distance which can be covered is much greater. *Go to 5.*
12. If you would rather stick it out until the last possible moment, it *might* be possible to hop into your car and leave town in the last five minutes between the Civil Defense alert and the explosion, but I don't recommend it. Your last-minute warning could come either from hearing your favorite AM/FM radio station suddenly cut off the air, or from the wailing beep of an emergency weather radio (which also reports atomic attack). Weather stations are illustrated in figure 9. Don't count on local sirens. Most of them don't work anymore, and we have all learned over the years to tune out the few sirens that do work. If you prefer not to leave until the last minute, your refuge had better be within one hour's driving time of your home or office. That will give you just enough time to enter a prepared shelter before any fallout arrives. Don't plan to fly out at the last minute; it would be suicidal. *Go to 6.*
13. If you wait until after the attack to evacuate, you will need a blast and fallout shelter appropriate to your location (see chapter 4), local stockpiles of supplies sufficient until it is safe to evacuate (see chapter 5), a guaranteed route away from the city (or target), and someplace to go. Don't count on flying out after the attack because all light aircraft in your area will probably have been smashed by the blast wave. Driving out could be a problem too, due to damage to automobiles and obstruction of streets. I would recommend evacuating ahead of time if possible, but as a back-up you should plan a route to your refuge that allows you to make use of backpacking, motorcycles, or river rafting. As strange as these suggestions sound, they are ways of leaving a shattered city which do not require broad, clear streets. Having a friend from out of town^e meet you with a car at a pre-arranged point would be best. *Go to 5 and 6, then go back to 2 and begin again.*
14. Do you live within ten miles of any secondary target (twenty miles if the target is listed with an asterisk)? *Yes—15. No—16.*
15. Secondary targets are likely to be hit because of their industrial importance. Sometimes this "importance" is based on a local accident of geography which concentrates railroad and highway routes along a valley, pass, or shoreline and has little to do with industrial output as we normally think of it. In most cases, however, we can reasonably expect that the Soviets will concentrate their missile strike on the primary targets and people living near secondary targets will have a few hours of warning before the bombers arrive. This greatly improves chances of a successful last-minute evacuation, provided you have prepared ahead of time and can load a car quickly enough to beat the rush. (The last thing you want is to be caught in a traffic jam while the Backfire bombers are closing in.) Using motorcycles to leave the city alleviates this problem, provided you have stocked a refuge out in the woods prior to the attack and do not have to carry all your supplies with you. The location of your refuge relative to the secondary target should insure that you will be out of range of thermal and blast effects; there is probably little danger of local fallout. *Go to 18.*
16. Do you live within ten miles of a tertiary target (twenty miles if the target is listed with an asterisk)? *Yes—17. No—18.*
17. It would be best to make plans to evacuate to a safe refuge, but there is the distinct possibility that tertiary targets will not be attacked. This puts a different complexion on your preparations. It would be a good idea to get out of town for a few days when things get bad, but you will probably be returning. An elaborate refuge off in the hills is not necessarily required. In most cases a fallout-free spot to pitch a tent for a week or two ought to do nicely. Notice that if you are in an area subject to fallout from a primary target you can't get away with just a tent and a flat space to put it on. In that case, you might be better off to build a fallout shelter at home and trust to luck that your city won't be attacked. Retreaters who don't believe in trusting to luck can still arrange for a permanent refuge in the hills. *Go to 18.*
18. Do you live within fifty miles of any Minuteman or Titan missile complex (see Appendix A)? *Yes—19. No—20.*
19. Your location has a chance of receiving over 10,000 R of fallout radiation, which is more than a typical

home fallout shelter with a protection factor (PF) of 40 can protect you against (see chapter 4 for a more detailed explanation of the derivation of PFs). A permanent underground fallout shelter with a PF between 100 and 1,000 would be a sound investment. You should also make preparations to evacuate after two or three weeks, unless you have the provisions and the patience to stay underground for ninety days. Actually, if you live this close to a missile field your best survival option is to move somewhere else immediately. *Moving—5. Staying—46.*

20. At this point, you should turn back to the previous section of the chapter and map the probable fallout areas around your location. If you live to the north, south, or east of a missile field, take your predictions with a grain of salt and err on the side of safety. Once you have constructed your fallout map, answer this question: Do you live (or is your retreat) in an area with less than a 2 percent chance of receiving local fallout? *Yes—21. No—22.*
21. You have no problems. I suggest that you take steps to provide some radiation protection anyway, just in case, but you really don't need any. Your location is suitable for a permanent retreat, at least as far as nuclear weapons effects are concerned. *Go to 46.*
22. There is at least a 2 percent chance of getting some fallout at your location. Your options are to provide yourself with some kind of fallout shelter, trust to luck that you won't get any fallout, or relocate to a safer area. *Relocate—5 and 6. Shelter or trust to luck—46.*
23. You are not primarily worried about a nuclear attack. This implies that you are more worried about something else. *Natural disaster—24. Man-made disaster—36. Religious or supernatural disaster—45.*
24. Natural disasters may be earthquakes—25, tsunamis—26, tornadoes—27, hurricanes—28, floods—29, droughts—30, crop failures—31, wildfires—32, volcanoes—33, epidemics—34 and blizzards—35.
25. The cardinal rule for surviving an earthquake is to stand in a doorway away from windows, shelves, or other items that could topple over or shatter and shower you with glass fragments. Usually you will have only a few seconds in which to reach such a location, so you should pick it out in advance. Statistically, the earthquake will probably catch you either at home in bed or at work. An earthquake can range from a minor inconvenience to a major disaster. To prepare for the worst, stockpile food and supplies for at least a month of self-sufficiency (see chapter 5). Figure 10 shows a map of earthquake danger areas in case you are not sure how much danger you are in. Notice that there are only three really safe areas... all of them in prime hurricane country. *Go to 46.*

26. The one obvious thing to keep in mind about tsunamis is that you have to be near the ocean shore in order to be threatened. If you live more than 200 feet above sea level, you should be quite safe, unless you are adjacent to a bay with a long, narrow V-shape. Such bays can magnify the wave. In most areas subject to tsunamis (such as Hawaii), the government has well-maintained alert systems which predict the waves and warn residents hours in advance. You should take precautions for a rapid evacuation as described for "wildfire" in 32. You will be in danger of being taken by surprise only if you live at the water's edge near an active submarine fault (see the shoreline areas in figure 10). If you live on an earthquake coast, don't buy a beach house. *Go to 46.*

27. Figure 11 shows the country's worst tornado danger areas. In the most dangerous area (central Oklahoma), the number of tornadoes can reach three to four per year in each fifty-mile square area. If you live in a tornado danger area, you should build a storm cellar in your backyard or construct a reinforced shelter in the northeast corner of your basement. Tornadoes usually travel from the southwest toward the northeast, making the northeast part of a building marginally safer than other locations. Some of the fallout shelters described in chapter 4 will also double as tornado shelters, so why not build one shelter for both purposes? An emergency weather radio with an automatic alarm would be a good investment, too. If your house is damaged and your community widely disrupted by one or more tornadoes, you will need to provide temporary shelter (tents, etc.) as well as most of your own food, water, clothing, and other supplies for a day or two at least and for possibly as much as a month. Read the rest of this book with these needs in mind. *Go to 46.*

28. Hurricanes represent the natural disaster most similar to a nuclear attack. Surviving a hurricane means either that you must seek specially constructed shelter or that you must flee. The effects occur over thousands of square miles and tax the preparedness of entire states. It isn't safe to go outside or to travel; the aftermath can take weeks to come under control. Fortunately, relatively few of us live in the most dangerous hurricane areas (see figure 12). My advice to a retreator who fears hurricanes is to prepare food, clothing, gasoline, and makeshift shelter supplies in boxes or duffle bags that can be loaded very quickly into a car (see 32). If a Civil Defense mass evacuation is under way, authorities will tell you where they think nearby safe areas will be, but I would be more inclined to take a weekend trip entirely out of the danger region. (Drive up to the Lake of the Ozarks—and admire the Minuteman missile silos!) For your own sake, do not even contemplate staying near the shore.

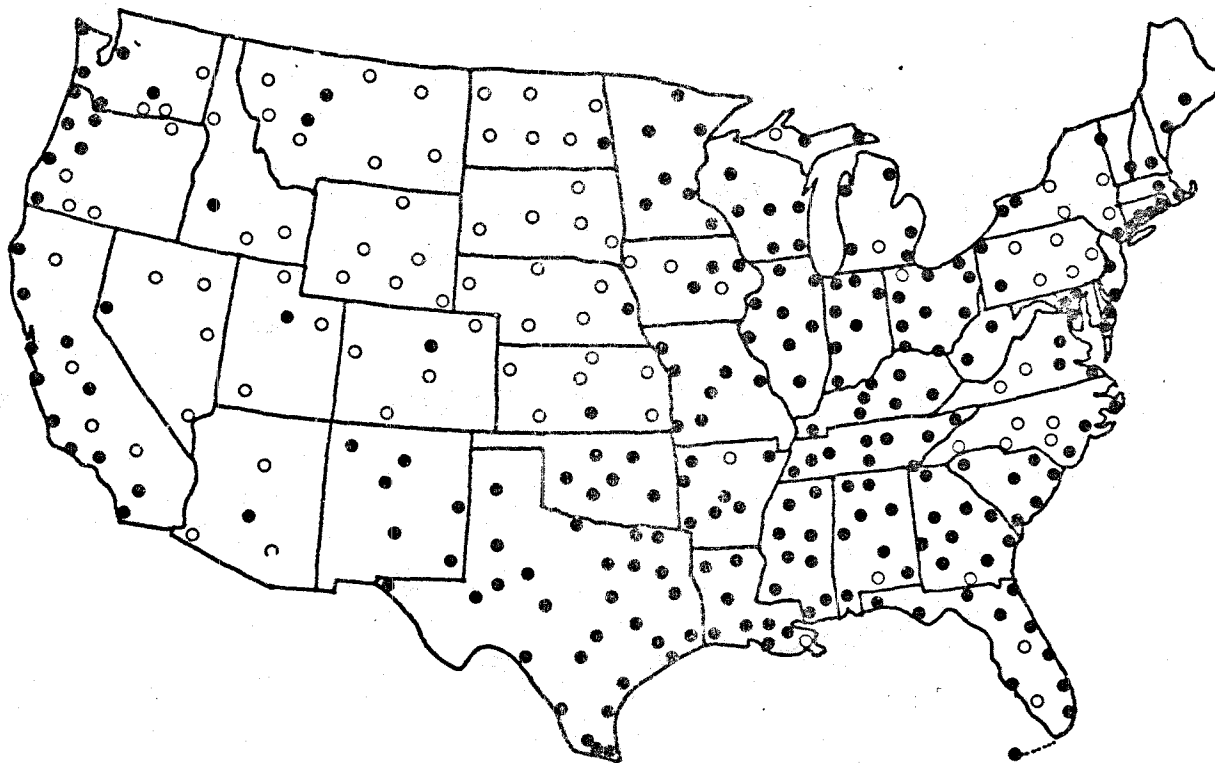


FIGURE 9: Emergency Weather Radio Stations. Black dots represent operating stations, while circles represent stations planned but not yet constructed. The section of the country with the greatest density of

first strike nuclear targets has been conspicuously neglected in terms of emergency warning stations. (Compare to figure 7.)

Whole towns have disappeared during hurricanes along with the hardy souls who tried to weather it out.
Go to 46.

29. Floods can happen almost anywhere except on mountain peaks. Natural floods result from too much rain (or melting snow) all at once, and no one can be entirely safe from them. A measure of safety can be obtained, however, by deciding not to live within 100 vertical feet of the nearest major river, or within the boundaries of local "100-year" floods. Your county Civil Defense office can supply you with the information appropriate to your location. If you live within an area subject to very wide-scale flooding, you might invest in survival equipment and supplies appropriate to a floating retreat. (This subject is discussed in more detail in chapter 4.) *Go to 46.*

30. Droughts do not normally threaten direct survival, but they can be very bad for crops and livestock. Stockpiling water isn't the answer unless you have the ability to do it on a grand scale. A solution more to the point would be to drill a deep well on your property or to invest in equipment for purifying brackish or polluted water into drinking water (see chapter 5). The main danger produced by drought is crop failure—31, or possibly widespread wildfire—32.

31. There is only one answer to a serious crop failure. As has been the case for a hundred thousand years, those of us who have stored a little extra food will be much better off than those who have not. A crop failure by itself will probably not produce serious problems in the United States, but even so, there could be nutritional and economic advantages to having a basement full of food after a really bad agricultural year. *Go to 46.*

32. I have listed wildfire as a natural disaster, but as an ecologist I personally regard runaway wildfires as man-made disasters. Forests used to burn naturally and surprisingly often, but the evidence suggests that most of these natural fires were not very dangerous. After half a century of fire suppression, however, our forests are so full of fuel that they burn violently and uncontrollably whenever they get a chance. (We have Smokey the Bear to thank for that.) If you live in a forested area or in dense chaparral you should take steps to be ready for an emergency evacuation. First, be sure that you have at least two escape routes. Then pack a few boxes or duffle bags with food and clothing, and place a list of items to take with you along with an empty duffle bag in some central part of the house. Without such precautions you might make an irrational selection or waste valuable get-away time

carrying one item at a time out to the car. One more thing: put an extra set of car keys with the evacuation checklist. You may seriously regret it if you don't. To protect the house itself, clear away all native vegetation within 50 feet (100 feet downhill), and substitute succulent plants like iceplant or cactus. Landscape with paved patios, gravel walks, and well-watered lawns. Put a rock or tile roof on the house, or at least have the shingles treated with a flame retardant. *Go to 46.*

33. Volcanoes are not a threat to you unless you happen to be living next door to one. Even then, you probably have little to worry about, since almost all of the thousands of volcanoes in the United States are extinct. The exceptions are in the states bordering the Pacific Ocean, where there are several definitely active volcanoes: Mt. Baker, Mt. Rainier, and Mt. St. Helens in Washington; Mt. Hood in Oregon; and Mt. Shasta, Lassen Peak, and Cinder Cone (near Lassen) in California. In addition, there are many others along the Cascades which are dormant. Mt. St. Helens, northeast of Portland, erupted violently and repeatedly throughout the 1800s, producing gigantic flows of mud and ash. Since the last eruption, three

hydroelectric dams have been built on the slopes of the mountain. Civil Defense planners are worried that a future eruption may produce a mud flow overwhelming the uppermost dam, causing a chain reaction of dam failures that would flood the Portland area. The state of Hawaii is entirely composed of volcanoes, four of which are active: Haleakala on Maui; and Mauna Loa, Hualalai, and Kilauea on Hawaii. Alaska contains about forty active volcanoes, mainly concentrated in a single belt stretching southwest from Anchorage to the outermost of the Aleutian Islands. The one outstanding lesson of volcano safety is that no one has ever died in a volcanic eruption who had the sense to leave early. If you wait too long you could be caught in a trap like the one that engulfed Pompeii: volcanic ash that's too thick to breathe and too thin to walk on. *Go to 46.*

34. Epidemics concern me as a population ecologist because they are a primary natural remedy to overpopulation and because it has been so long since the human race was subjected to a serious disease outbreak. If a disease should invade your community, there are several steps you might take to avoid contracting it. Running away isn't one of them. Unfortu-

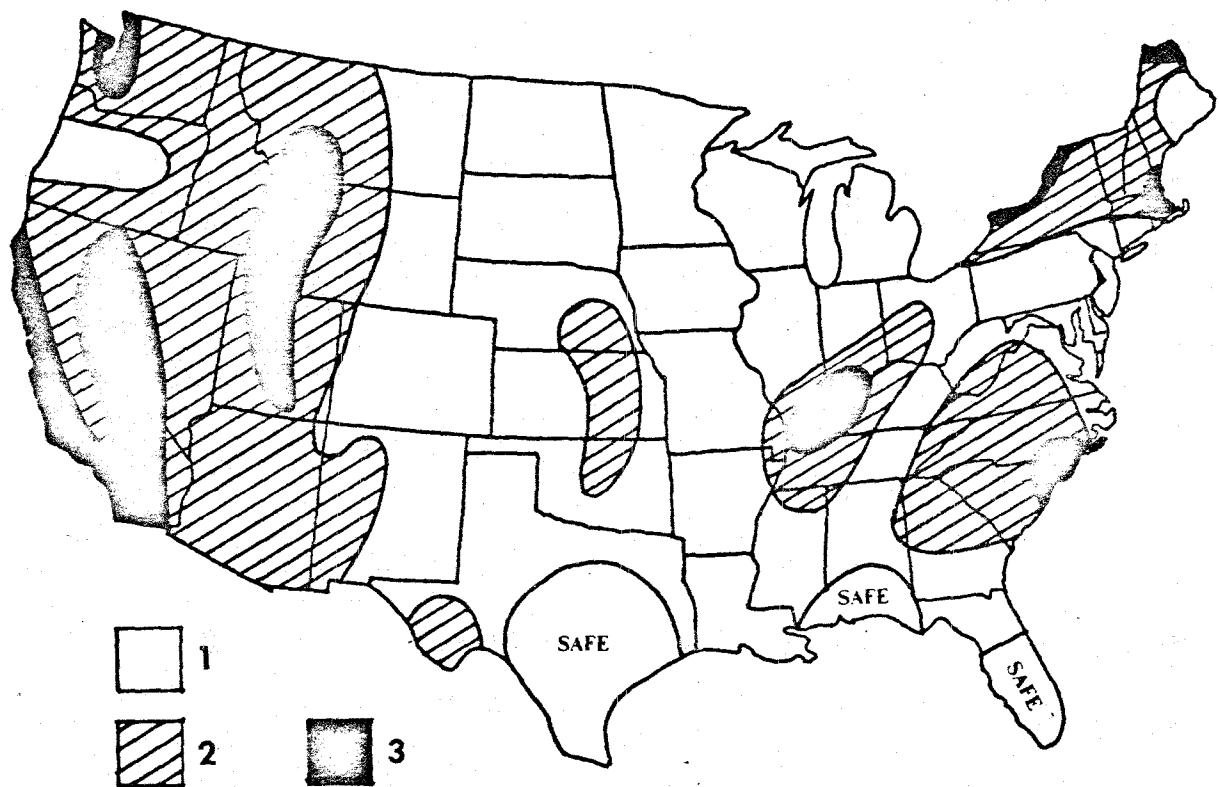


FIGURE 10: Earthquake Danger Areas. Zone 1 areas may expect minor structural damage, Zone 2 areas risk moderate damage, and Zone 3 areas have the potential for major structural damage. Areas

marked "safe" are unlikely to experience any earthquake damage. (After *Protected Educational Facilities in Found Space*, Defense Civil Preparedness Agency, TR-80, May 1973—D14.9:78.)

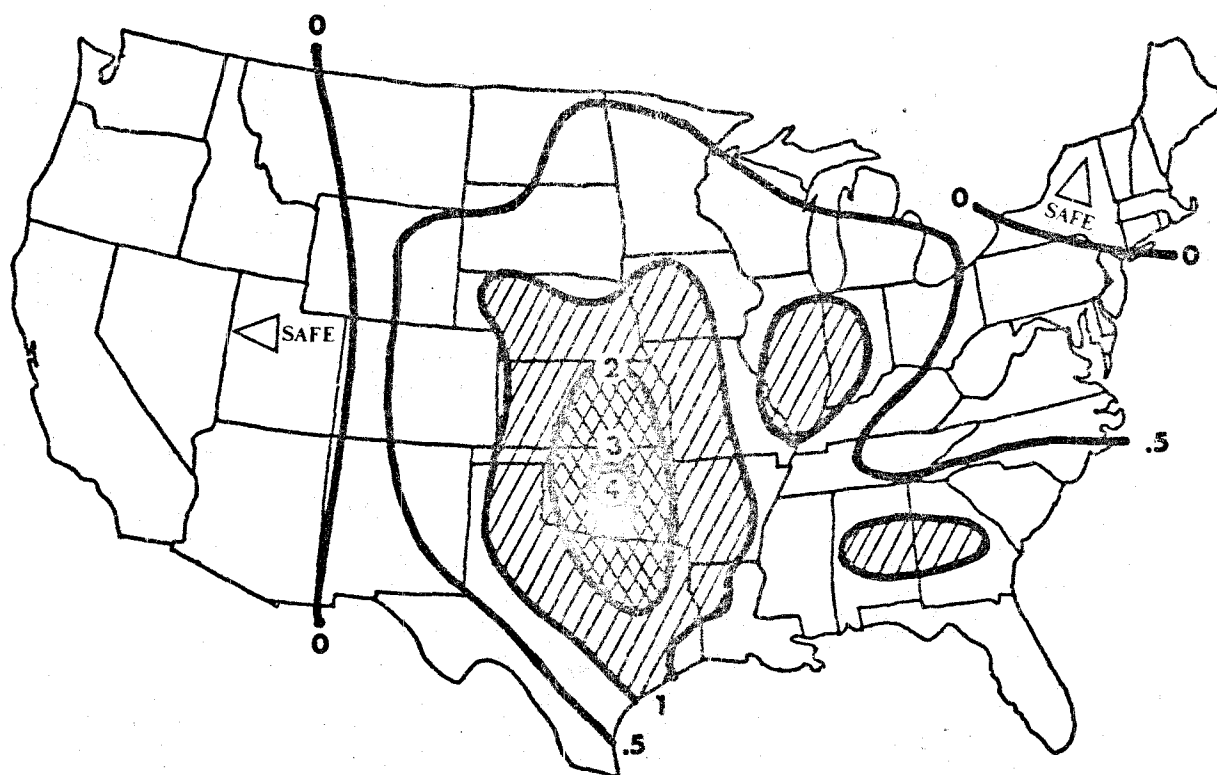


FIGURE 11: Tornado Danger Areas. Contours represent the average number of tornadoes each year per fifty-square-mile area. (After the *New York Times* 5 April 1974.)

nately, getting out in public (as you must do to flee) is about the best way to catch the disease. Also, people in surrounding communities may not take kindly to your intended migration. People have occasionally even been shot for trying to escape from quarantined areas. A better plan is to withdraw into your home and avoid coming into contact with anyone. If you avoid other people and practice rigorous sanitary precautions at home, you will have helped yourself about as much as you can. Of course, such a withdrawal will require an in-house source of food, water, and perhaps medicines. Chapters 5 and 6 will guide you in the selection of these items. *Go to 46.*

35. Severe winter storms usually don't mean more than three weeks of isolation, but those three weeks could involve hardship if you are not prepared to supply your own heat and food in the meantime. If a blizzard is your main worry, see chapters 4 and 5.³ *Go to 46.*
36. Man-made disasters are all around us, more or less waiting for an opportunity to happen. Dam failure—37, city fire—38, nuclear reactor accident—39, train accident (chemical spill)—40, terrorists—41, repressive government—42, personal attack—43, economic collapse—44.
37. How do you know if you are in danger from a faulty

dam? Obviously, appearances aren't worth anything. I would suggest that you have a close look at some detailed topographic maps of your area to see just where the dams and reservoirs are actually located. Be sure to check any ponds or lakes in the hills upstream of your position to see what keeps them from suddenly draining. When you have a good idea of the distribution of such potential threats, go to visit your local Civil Defense director. My experience has been that local CD people are very helpful and can usually point out exactly where the floodwaters from a ruptured dam are expected to go. They may also be able to advise you about large dams far upstream which might cause problems. In any case, your options are to move permanently to high ground or to relocate to a motel on high ground during especially heavy rain storms. Dams are particularly vulnerable to failure when they are overfull or when they are filling for the first time. *Go to 46.*

38. Most of our cities are far less inflammable than they used to be, and except in periods of poor labor relations, our fire-fighting capability is very advanced. Most people need not worry. If you live in a high-rise apartment building, however, be sure you have an enclosed concrete stairwell which you can locate in the dark that leads to an exterior ground-level exit.

You should also look into the possibility of having a rope ladder. Otherwise, if fire is your worry, you should take steps as outlined in 32.

39. The best rule to follow for avoiding nuclear reactor accidents is, don't live near one (see figure 13). You can bet that if the reactor melts down and starts to release radioactive materials into the air, you will be one of the last to know. The history of reactor accidents clearly shows that the authorities don't like to say anything until it is impossible to keep silent any longer. It may only be in the future that the real circumstances of the Three Mile Island incident will be fully known; critics are already alarmed at the apparent lack of communication between controlling agencies. I suggest that you buy a radiation detection instrument and a gas mask or other respiration filter as insurance. That way you can avoid inhaling dangerous particles while you find out for yourself how radioactive your neighborhood has become. As for the area which could be contaminated by a really bad accident, the rules for nuclear weapons fallout do *not* apply. The best I can offer is the observation that the Russian nuclear accident in the Urals apparently required the evacuation of an area at least twenty-five miles square. *Go to 46.*

40. Chemical spills from derailed trains are not usually much of a hazard except within half a mile or so of the wreck. If several train cars derail near your home I suggest that you pack up quickly and go visit Grandma until the trouble is cleared up (even if the local authorities don't ask you to evacuate). About one train car in twenty-five carries explosive or toxic chemicals, and many times the Civil Defense people don't know what is in the cars. If the wreck is two or three miles away you might get out your trusty gas mask and keep it handy for a while, and you should certainly carry it with you in the car if you have to drive past the wreckage. Individual gas masks are inexpensive and inconspicuous (stuff them in a paper bag) and are good insurance for people who live near railroads. *Go to 46.*

41. The experts disagree strongly about what to do if you are in a group that is taken hostage by terrorists. On the one hand, some advise gradually getting to know the terrorists, under the assumption that if the terrorists begin to see you as a person instead of a "thing," they will have a harder time shooting you. On the other hand, the people who are usually shot first are the ones who stand out in the crowd. I would be inclined to offer one additional piece of advice. If it

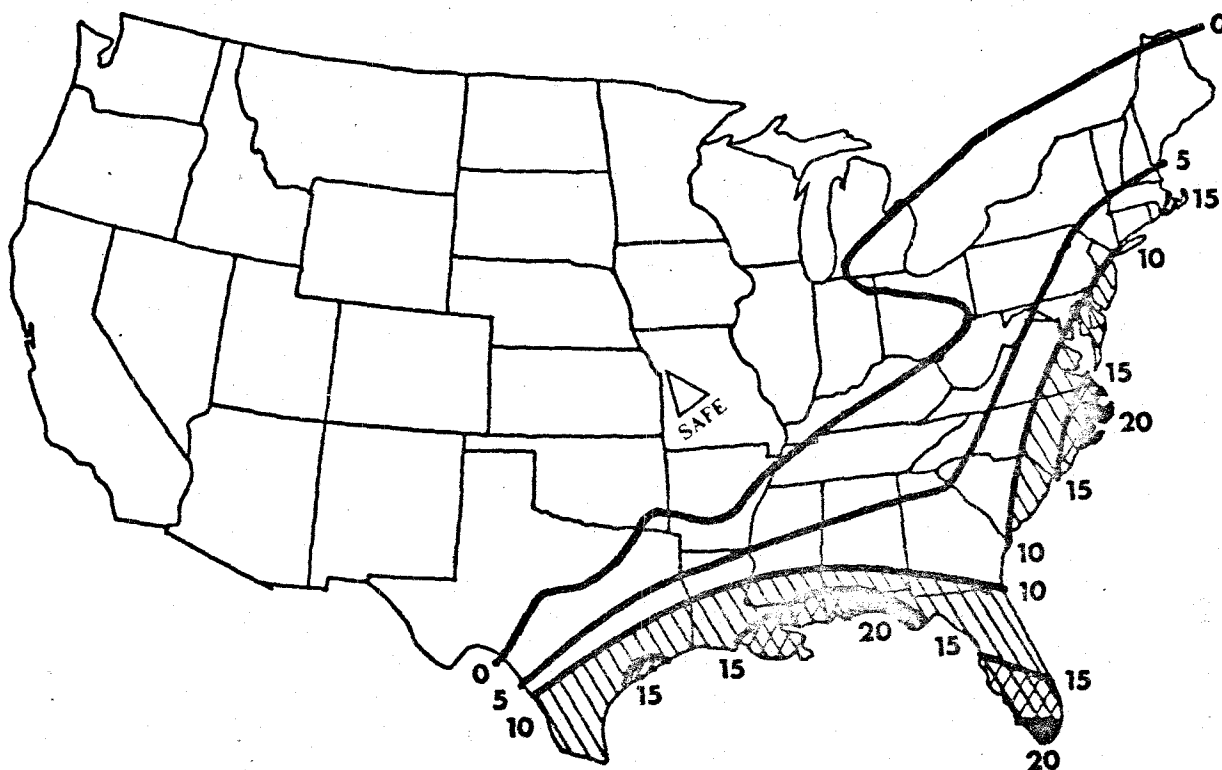


FIGURE 12: Hurricane Danger Areas. Contours represent the relative number of destructive tropical storms which have passed over

each area. (After *Protected Educational Facilities in Found Space*, Defense Civil Preparedness Agency, TR-80, May 1973—D14.9:78.)

looks like you are going to be killed anyway, *do something*. A person with a machine gun is not invulnerable—only overconfident. As for terrorist attacks directed at a more general target, such as sabotage of the city power network, there is really nothing you can do except be ready to evacuate or become temporarily self-sufficient. *Go to 46.*

42. I had not seriously considered the possibility that a totalitarian government could arise in the United States until one day I met a retreator who keeps his passport in his pocket and refuses to travel more than 200 miles away from the Canadian border. I thought he was a little paranoid, but as the saying goes, "That doesn't mean they're not out to get you." After reading Executive Order 11490 I'm not quite as complacent about this subject.⁴ In my opinion, flight from a repressive government is the wisest course. The Jews who left Europe just before World War II made the right choice. Six million of their slower brethren paid the price of tardiness. Incidentally, when you hear the conservatives opposing gun control on the grounds that it leads to tyranny—they're right. Totalitarian regimes do have a historical tendency to disarm the civilian population prior to throwing their weight around. Frequently they use very humanitarian arguments, too. If you are the sanguine type who would rather fight, there are many left-wing, right-wing, and military manuals available which will tell you exactly how to go about it. Some of these are mentioned in chapter 7. *Go to 46.*

43. I put in a paragraph about personal attack because in some parts of the country the possibility of being assaulted ranks very high on the list of things people worry about. Obviously, one tries to avoid dark alleys, rowdy bars, slum neighborhoods, and walking alone at night. As for personal defense, there are really only two ways to go. You can spend several years learning to be a deadly martial artist or you can spend several weeks learning to be a deadly pistolero. Karate gives one the advantage of being "armed" all the time without being in violation of the law. If that doesn't appeal to you, there is the pistol. Don't bother with knives, tear gas, hatpins, and other assorted weapons. If you are going to defy the law by carrying a concealed weapon, you might as well carry a gun. See comments on pistols in chapter 7 for a discussion of selection and use. *Go to 46.*

44. The survivalists who are preparing for economic collapse tend to follow one or more of three courses. They buy United States common circulation silver coins and hoard them. Your local coin shop can help you find these. The main idea is that even if the dollar suddenly becomes worthless, the silver in the coins will still have value. At present, the coins are worth

five times their face value, and they should continue to increase in value as the dollar becomes weaker. The second approach is to invest in "trade goods" to use when bartering becomes necessary. I have usually heard this idea explained in terms of stockpiled ammunition (especially .22 caliber cartridges). In a survival situation, ammunition has an intrinsic value which might make it a substitute for money. The third approach involves buying retreat property which can be farmed. The idea is to retreat to the hills and become entirely self-sufficient until the trouble is over. People concerned about economic collapse usually subscribe to one or more of the survivalist newsletters devoted to this subject. Consult chapter 5 for discussion of these newsletters and other survival resources. One particularly good treatment of the subject is Howard Ruff's *How to Prosper During the Coming Bad Years*.⁵ Ruff does a very good job of describing the economic dangers ahead and prescribes personal financial strategies to cope with them. *Go to 46.*

45. Build an ark. Not only is there historical precedent but you won't be alone. There are actually people who have built floating emergency houses to be ready for the next "deluge." Otherwise see Jim McKeever's *Christians Will Go through the Tribulation . . . And How to Prepare for It*.⁶ *Go to 46.*

46. At this point, your options are either to proceed directly to the rest of this chapter or to return to some point in the key and try a different set of possibilities to see where they lead you.

Additional Considerations

When retreaters plan the location of their refuges, they normally take into consideration factors other than direct and indirect nuclear weapons effects. Very frequently, the location of large population centers is taken into consideration, as well as the availability of good water and suitable land for farming or gardening. Which contributing factors are really important in selecting the retreat site?

The first thing many retreaters point out is that the refuge must be in a place that can be *defended* or it isn't any good. I've thought a lot about this characteristically immediate response and I am inclined to put it down to the fact that most retreaters tend to be extremely security-conscious. The thought of hordes of desperate refugees or Pancho Villa-style banditos laying siege to the refuge certainly cannot be ignored, but neither should it be paramount in the selection of the site. If the refuge is not biologically capable of supporting the

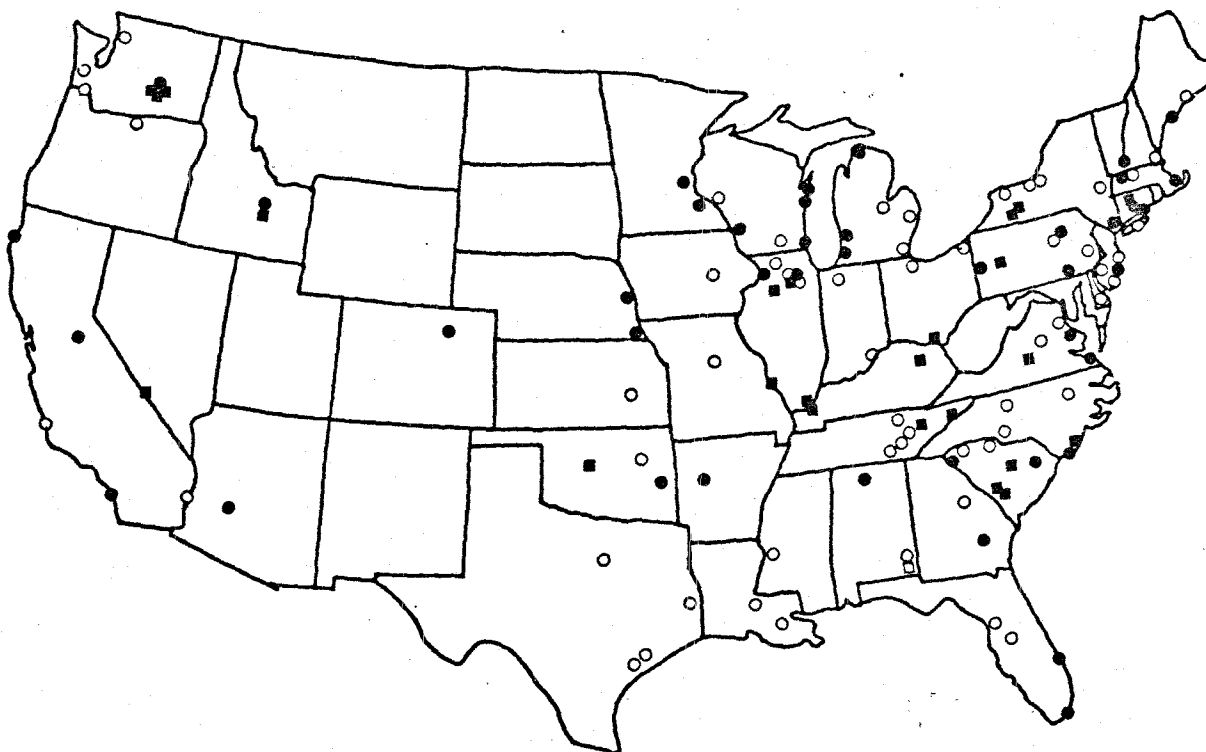


FIGURE 13: Nuclear Facilities in the United States. Black dots indicate existing nuclear power plants; circles represent proposed plants.

Black squares plot various kinds of uranium processing plants and facilities; white squares indicate proposed facilities.

retreaters, the retreaters themselves will soon have to become bandits in order to stay alive. The first priority, then, is arable land and dependable water. Once you have located a suitable area with these qualities, you can go on to the problem of defense; first make sure that you have a piece of territory that is worth defending.

What about those ravening hordes? Suppose there is a nuclear attack that leaves all those city-bred people without food and water? Won't they come to the country looking for something to eat? Well, maybe so—but maybe not. One point which is frequently overlooked by retreat planners is the damage to the routes of communication which a nuclear attack will cause. In most states, the main highways run right through the high-priority targets.

If you compare California's nuclear target sites (as illustrated in Appendix A), with the maps in figure 14, it becomes clear that virtually all the north-south arteries in this state would be severed by an atomic attack. Any attack severe enough to drive unprepared refugees from their homes will also interfere seriously with their mobility. There will be virtually no gasoline for them, remember. (A retreator always has a safe route, an alternate route, and plenty of gas.) It will be reasonable to expect a few refugees following an attack, but not as many as you might be inclined to believe.

There is one situation in which there could be a large number of refugees in your neighborhood, however. If things start to look bad, the President might order the cities to be evacuated as a precautionary move. Millions of people would head for the designated "host communities" as the Civil Defense authorities try to execute their crisis-relocation plans. In that case, as a retreator in a secure area, you might suddenly have a score of refugees billeted with you by the local Civil Defense command or the National Guard. *You will not be able to legally refuse.* This would be a situation where the war has not begun and might never start. Civilization with all its laws and restrictions still stands. You will have to take in the refugees assigned to you. What will you do then?

A third topic concerns the possibility of retreating by boat. Persons who live in seacoast cities may discover that their escape routes are severely limited by surrounding targets and the coast. This situation applies particularly to potential retreaters living in the Boston-Washington megalopolis, Miami, Houston, the suburbs of Los Angeles and San Francisco, and cities on the shores of the Great Lakes. If you can sail out to sea as little as 20 miles off the California coast, you will be quite safe from blast and fallout. On the east coast, a distance of 200 to 300 miles would be better. Retreating out to sea is an

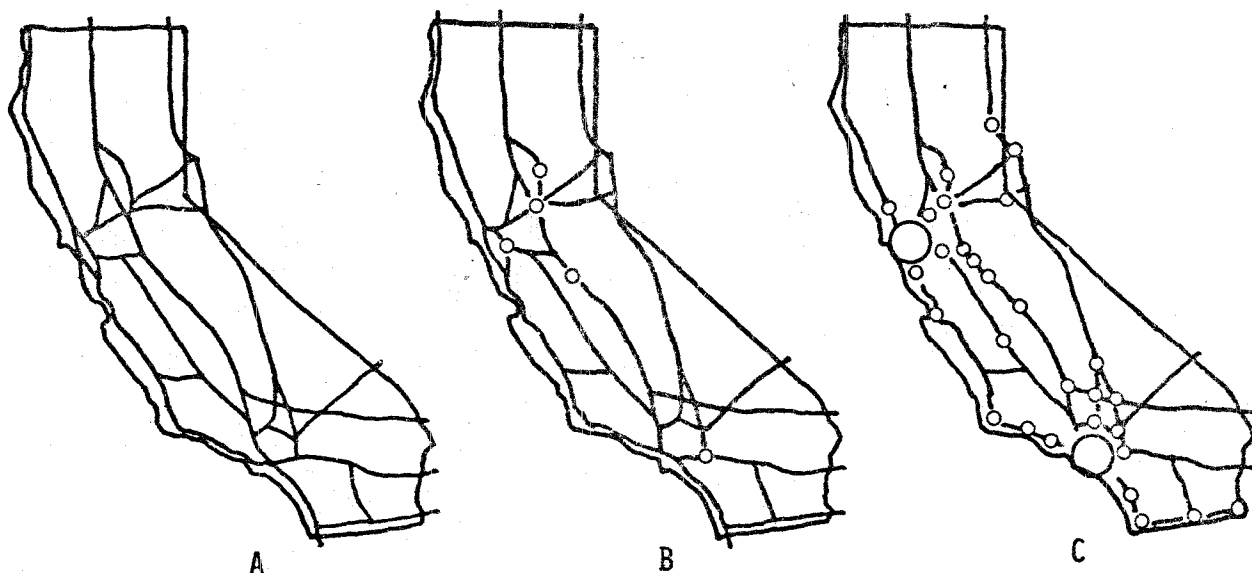


FIGURE 14: Major Highways in California. (A) Prior to a nuclear attack; (B) after an attack on five primary targets; (C) after an attack on all targets in the state. Extreme fragmentation of highways around

populated areas will tend to isolate retreaters and refugees in local areas.

unusual suggestion, but in many places it could be the best chance you have. Chapter 4 discusses how to use a small sailboat as a fallout shelter, in case you don't make it far enough out to sea in time.

Commentary

What to do, where to go, and how to get there are the three primary questions retreaters face in beginning to plan their refuges. The right decisions are crucial to success at this initial stage. To make the right decisions, retreaters need information on the nuclear targets and fallout distributions near their locations, as well as information on the agricultural ability of various poten-

tial refuges to support them in the long run. Potential interferences from refugees should be considered, but as a secondary factor.

Now that you have made your first decisions about how to organize your survival effort, the remaining chapters will help you begin.

Notes

1. Samuel Glasstone, ed., *The Effects of Nuclear Weapons*, 3rd ed., a report of the United States Department of Defense and the United States Department of Energy, 1977 (D1 2:N 88/2).
2. *User's Manual, Meteorological Data for Radiological Defense*, Defense Civil Preparedness Agency, July 1970 (FG E 5.6/1).
3. See also Evan Powell, "For Winter Survival Build a Warm Room," *Popular Science* November 1977, p. 110.
4. For a brief summary of the provisions of this order, see chapter 1.
5. Howard Ruff, *How to Prosper During the Coming Bad Years* (New York: Times Books, 1979).
6. Jim McKeever, *Christians Will Go through the Tribulation . . . And How To Prepare for It*. (PO Box 4130, Medford, Oregon 97501).

APPENDIX A

Nuclear Target Areas within the United States

The following information was compiled from various publications of the Defense Civil Preparedness Agency (DCPA), the Strategic Air Command, the United States Senate, and the Library of Congress. All of the data were in the open literature; there are no government secrets revealed here. The primary source was *High Risk Areas for Civil Preparedness Nuclear Defense Planning Purposes* (DCPA, TR-82, April 1975). All high priority targets were double-checked against *Analysis of Effects of Limited Nuclear Warfare* (United States Senate Committee on Foreign Relations, September 1975).

Figure 35 shows the extent of areas of direct weapon effects in which an unprotected human would be in danger of injury. However, 300 tertiary targets not shown on this map are discussed in the text. Do not overlook these targets in your survival planning. In the list that follows, the radius of danger is assumed to be ten miles unless the target is marked with an asterisk (*). In that case, the danger radius is twenty miles. Note that some danger areas cross state boundaries.

Primary targets are military bases, missile silos, and command posts which the Soviets may attack without warning in an effort to disarm us. These areas will certainly be hit in any nuclear exchange. Persons living near these targets will receive virtually no warning before the incoming warheads explode.

Secondary targets are military installations and cities which have high military value but which do not house strategic weapons. These areas might not be attacked in a first strike, but would be reserved for subsequent bomber or missile attacks with the object of reducing our ability to fight a prolonged conventional war.

Tertiary targets are non-military cities whose residents can be held hostage for purposes of nuclear blackmail. The object here would be to destroy cities one by one in every state until Congress was clamoring for peace at any price. If this course of action sounds unthinkable, remember that it is exactly what we did to the Japanese at the end of World War II.

The *High Risk Areas* manual designates 175 counties which could receive extremely high levels of fallout radiation. I have chosen not to reproduce this list here because, in my opinion, the information is very poor. The DCPA researchers made assumptions and used statistical techniques which have very little to do with reality; problems were compounded by inappropriate graphics and slopping printing practices. The results are misleading and potentially dangerous from the standpoint of survival planning. The fallout prediction method described in chapter 3 is much more reliable.

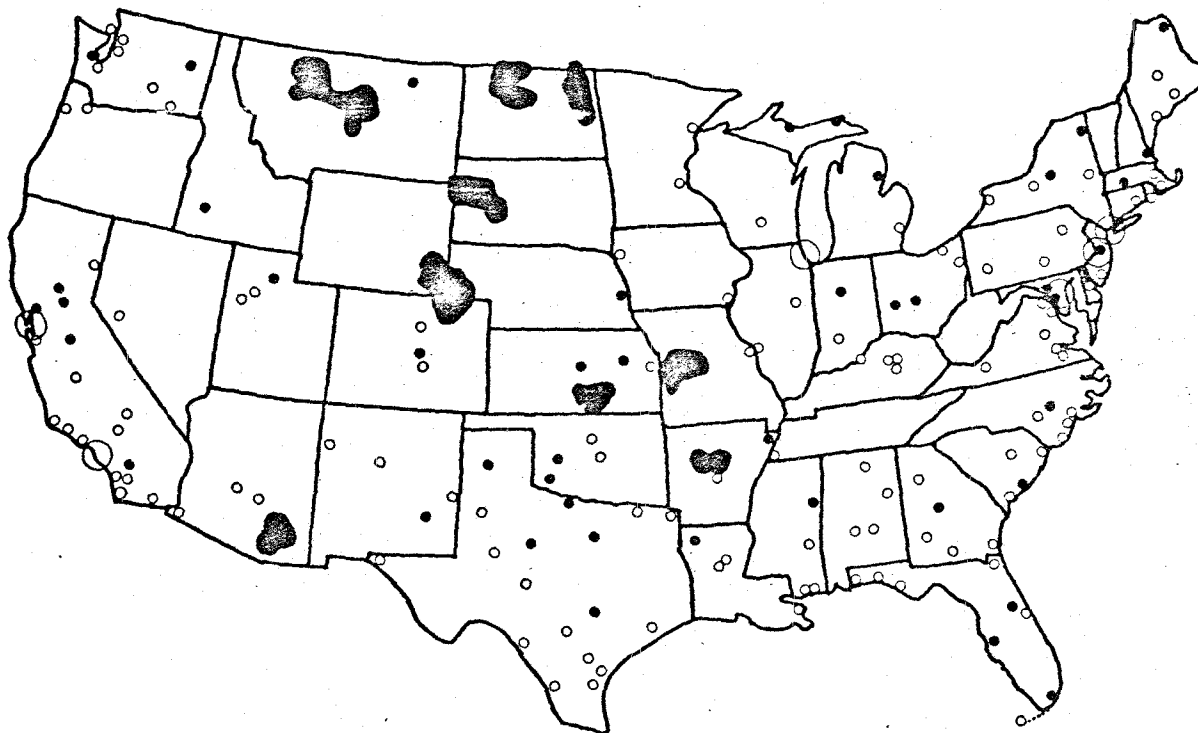


FIGURE 35: Military target areas within the United States. Solid black areas represent primary targets; open circles represent secondary targets. Refer to the text for exact target locations and for the

location of tertiary targets which should not be overlooked in survival planning.

Note that the Air Force bases designated as stratotanker bases or heavy bomber bases involve an additional fan-shaped high-risk area extending about 50 miles north of each base. Medium bomber bases have an additional high-risk area extending 100 miles north of each base. Danger in these areas is caused by the possibility that the Soviets will attempt to knock down our bombers and tankers shortly after they are launched. The danger areas represent a five-minute flying time radius from each base, within which nuclear air bursts might be expected during the first few minutes of the attack.

This list covers 1,108 primary targets (54 bases and 1,054 silos), 142 secondary targets (bases and industrial areas), and 300 tertiary targets (cities). That's 1,550 in total.

ALABAMA

Primary: None. *Secondary:* Anniston, Selma, Huntsville,* Montgomery. *Tertiary:* Muscle Shoals, Gadsden, Childersburg,* Tuscaloosa, Phenix City (Columbus, Georgia), Mobile.

ALASKA

Primary: None. *Secondary:* Adak Island, Anchorage, Fairbanks, Shermys Island (space radar), Clear (BMEWS radar). *Tertiary:* None.

ARIZONA

Primary: Davis-Monthan Air Force Base complex at Tucson (Titan missiles; including the entire area within a line connecting Nogales, Cochise, Mammoth, Eloy, south to the Mexican border). *Secondary:* Gilbert, Perryville, Yuma. *Tertiary:* Phoenix.

ARKANSAS

Primary: Little Rock Air Force Base complex (Titan missiles, including the entire area within a line connecting Shirley, Newport, Des Arc, Little Rock, Russellville, Nogo, and Shirley again). Blytheville Air Force Base (heavy bombers). *Secondary:* Pine Bluff, West Memphis (Memphis, Tennessee). *Tertiary:* Fort Smith, Texarkana, Little Rock.

CALIFORNIA

Primary: Travis Air Force Base at Fairfield (stratotankers), Castle Air Force Base at Merced (heavy bombers), Mather Air Force Base at Sacramento (heavy bombers), Beale Air Force Base at Marysville (heavy bombers and PAVE PAWS radar), March Air Force Base at San Bernardino (heavy bombers). *Secondary:* San Francisco area (including everything within a line connecting Pt. Reyes Station, St. Helena, Antioch, Palo Alto, Redwood City, and—up the coast—Pt. Reyes Station again), San Jose, El Centro, China Lake, Edwards Air Force Base (space camera), Lemoore, Portola, Los Angeles area (including everything within a line connecting Malibu, Camarillo, Lake Arrowhead, Perris, Laguna, and—up the coast—Malibu again), Oro Grande, Oceanside, San Diego,* Lathrope, Santa Barbara, Oxnard, Ventura, Thousand Oaks, Mt. Laguna (474N radar), Mill Valley (474N radar), Vandenberg Air Force Base (satellites). *Tertiary:* Milford, McClellan Air Force Base, Sacramento,* Santa Rosa, Modesto, Stockton, Salinas, Monterey, Fresno, Ridgecrest, Bakersfield, Mojave, Lancaster, Wrightwood, Barstow,

Yermo, Victorville, Banning, Warner Springs, Gilroy.

COLORADO

Primary: Warren Air Force base complex (Minuteman missiles; including everything within a line connecting Grover, Briggsdale, Fort Morgan, Sedgwick, and—along the state line—Grover again), Colorado Springs (North American Air Defense Command Headquarters).* *Secondary:* Denver, Pueblo. *Tertiary:* Greeley, Boulder, Aurora, Cheraw, Pueblo-Boone area, Broomfield, Rocky Flats (target is ten miles west of Sedalia).

CONNECTICUT

Primary: None. *Secondary:* New London (submarine factory). *Tertiary:* Hartford,* Bristol,* New Haven,* Stamford, Norwalk, Bridgeport, Danbury.

DELAWARE

Primary: None. *Secondary:* Dover. *Tertiary:* Wilmington, Odessa, New Castle.

FLORIDA

Primary: Homestead Air Force Base, McDill Air Force Base at Tampa (474N radar), McCoy Air Force Base at Orlando. *Secondary:* Panama, Cocoa Beach, Jacksonville, Pensacola, Key West, Elgin Air Force Base at Ft. Walton Beach (FPS-85 radar, space radar). *Tertiary:* Port St. Joe, Tallahassee, Gainesville, Daytona Beach, Cape Canaveral, Titusville, Tampa,* Sarasota, Ft. Myers, Palm Beach, Miami, Boca Raton, Fort Lauderdale.*

GEORGIA

Primary: Warner-Robins Air Force Base at Macon (heavy bombers). *Secondary:* Atlanta,* Albany, Brunswick, Valdosta (target is ten miles northeast of Valdosta). *Tertiary:* Augusta, Columbus, Savannah,* Stockbridge, Marietta.

HAWAII

Primary: None. *Secondary:* Honolulu area (includes all of Oahu except the Waimea-Kahuku area and Makapuu Point). *Tertiary:* None.

IDAHO

Primary: Mountain Home Air Force Base. *Secondary:* None. *Tertiary:* Boise.

ILLINOIS

Primary: None. *Secondary:* Chicago,* Rantoul, East St. Louis.* *Tertiary:* Freeport, Rockford, Zion, Decatur, Moline (Davenport, Iowa), Peoria, Bloomington-Normal, Champaign, Springfield, East Dubuque (Dubuque, Iowa), Alton, Joliet,* Aurora, Elgin, Des Plaines.

INDIANA

Primary: Grissom Air Force Base (stratotankers, located about ten miles southwest of Peru). *Secondary:* Jeffersonville (Louisville, Kentucky), Crane. *Tertiary:* Gary,* South Bend, Elkhart, Fort Wayne, Lafayette, Muncie, Anderson, Indianapolis,* Terre Haute, Evansville,* New Albany.*

IOWA

Primary: None. *Secondary:* Burlington, Sioux City. *Tertiary:* Waterloo, Dubuque, Cedar Rapids, Des Moines, Davenport, Council Bluffs (Omaha, Nebraska).

KANSAS

Primary: McConnell Air Force Base complex at Wichita (stratotankers, Titan missiles; including the entire area within a line connecting Eureka, Arlington, Attica, Caldwell, Arkansas City, and Eureka again), Schilling Air Force Base at Salina, Forbes Air Force Base at Topeka. *Secondary:* Olathe. *Tertiary:* Elwood (St. Joseph, Missouri), Leavenworth, Manhattan, Topeka, Kansas City,* De Soto.

KENTUCKY

Primary: None. *Secondary:* Louisville,* Lexington (and another target ten miles east of Lexington), Richmond. *Tertiary:* Covington (Cincinnati, Ohio), Henderson (Evansville, Indiana), Owensboro, Paducah.

LOUISIANA

Primary: Barksdale Air Force Base at Shreveport (heavy bombers). *Secondary:* New Orleans,* Alexandria (and another target ten miles northeast of Alexandria). *Tertiary:* Baton Rouge,* Sterlington, Monroe, Lake Charles, Lafayette, New Iberia.

MAINE

Primary: Loring Air Force Base at Limestone (heavy bombers), Kittery (Pease Air Force Base at Portsmouth, New Hampshire). *Secondary:* Brunswick, Franklin (target is about five miles northwest of Franklin), Charleston (474N radar). *Tertiary:* Bangor, Auburn, Portland.

MARYLAND

Primary: Mt. Weather complex (Presidential survival command post located fifty miles northwest of Washington, DC on the Appalachian Trail), Washington, DC. *Secondary:* Patuxent, Fort Ritchie,* Baltimore-Washington area (including everything within a line connecting Gaithersburg, Reisterstown, Bel Air, Aberdeen, Rock Hall, Annapolis, La Plata, Riverside and the Virginia state line). *Tertiary:* Lexington Park.

MASSACHUSETTS

Primary: Westover Air Force Base, near Holyoke. *Secondary:* Otis Air Force Base (PAVE PAWS radar), Boston.* *Tertiary:* Springfield,* Worcester,* Fitchburg, Lowell,* Pawtucket (Providence, Rhode Island),* New Bedford, Nantucket.

MICHIGAN

Primary: Kincheloe Air Force Base at Kinross (heavy bombers), Wurtsmith Air Force Base at Oscoda (heavy bombers), K.I. Sawyer Air Force Base at Gwinn (heavy bombers). *Secondary:* Mount Clemens. *Tertiary:* Detroit area (including everything from a line connecting Pontiac, Ann Arbor, and Monroe, east to the state line), Escanaba, Sault St. Marie, Alpena, Midland, Saginaw, Bay City, Muskegon, Flint, Grand Rapids, Port Huron, St. Claire, Lansing, Benton Harbor, Kalamazoo, Battle Creek, Jackson.

MINNESOTA

Primary: None. *Secondary:* Minneapolis-St. Paul,* Duluth. *Tertiary:* Rochester, Anoka, Forest Lake.

MISSISSIPPI

Primary: Columbus Air Force Base. *Secondary:* Bileci, Gulfport, Meridian. *Tertiary:* Jackson, Pascagoula, Meridian Station.

MISSOURI

Primary: Whiteman Air Force Base complex (Minuteman missiles; including everything within a line connecting Freeman, Richmond, Arrow Rock, California, Gravois Mills, Osceola, Stockton, Sheldon, Rich Hill—west to the state line—and Freeman again). *Secondary:* St. Louis.* *Tertiary:* St. Joseph, Kansas City,* Columbia, Springfield.

MONTANA

Primary: Malmstrom Air Force Base complex (Minuteman missiles; including everything within a line connecting Devon, Highwood, a point ten miles north of Winifred, Winnett, Melville, Neihart, Wolf Creek, Augusta, Ethridge, and Devon again), Glasgow Air Force Base. *Secondary:* None. *Tertiary:* Missoula, Helena, Butte, Billings.

NEBRASKA

Primary: Warren Air Force Base complex (Minuteman missiles; including the entire area southwest of a line connecting Henry, Oshkosh, and Chappell, to the state line), Omaha (Strategic Air Command Headquarters).* *Secondary:* None. *Tertiary:* Lincoln, Dakota City (Sioux City, Iowa).

NEVADA

Primary: None. *Secondary:* Hawthorne. *Tertiary:* Reno, Fallon, Las Vegas.

NEW HAMPSHIRE

Primary: Pease Air Force Base at Portsmouth (medium bombers). *Secondary:* Portsmouth harbor (submarine base). *Tertiary:* Manchester, Nashua (and all area within twenty miles of Lowell, Massachusetts).

NEW JERSEY

Primary: McGuire Air Force Base at Wrightstown. *Secondary:* Rockaway area (everything east of a line from Franklin to Somerville, to the state line), Trenton,* McKee City, Philadelphia area (includes everything within ten miles of the Delaware River from Pennsville to Cherry Hill, and within fifteen miles of the river from Cherry Hill to Trenton). *Tertiary:* Millville, Lakehurst, Scotch Plains,* Colt's Neck, Long Branch, Middletown.

NEW MEXICO

Primary: Roswell Air Force Base. *Secondary:* Albuquerque, Cannon Air Force Base at Clovis (and the area east to the state line), Gallup. *Tertiary:* Alamogordo, Las Cruces.

NEW YORK

Primary: Plattsburgh Air Force Base (medium bombers), Griffiss Air Force Base at Utica-Rome (heavy bombers).

Secondary: New York City area (includes everything south of Stony Point and west of Stony Brook to the state line), Watervliet, Buffalo, Syracuse.* *Tertiary:* Massena, Niagara Falls, Rochester (includes the area south to Henrietta), Albany, Troy, Schenectady, Binghamton, Brookhaven (within ten miles of Brookhaven National Laboratory).

NORTH CAROLINA

Primary: Seymour-Johnson Air Force Base at Goldsboro (heavy bombers). *Secondary:* Cherry Point, Fayetteville (Fort Bragg), Southport, Jacksonville-Midway Park area, Ft. Fisher (474N radar). *Tertiary:* Winston-Salem, Greensboro,* Graham, Durham, Morrisville, Raleigh, Asheville (south to Hendersonville), Charlotte, Wilmington, Carolina Beach.

NORTH DAKOTA

Primary: Grand Forks Air Force Base complex (Minuteman missiles, including the entire area within a line connecting Wahalla, Grand Forks, Tower City, Valley City, Devil's Lake, Sarles, and the Canadian border), also Minot Air Force Base complex (Minuteman missiles; including the entire area within a line connecting Westhope, Eckman, Minot, a point fifteen miles south of Towner, Harvey, Mercer, a point ten miles north of Beulah, Tioga, Portal, and the Canadian border. The danger zone extends about ten miles into Canada between Sarles and Wahalla, and between Portal and Westhope). *Secondary:* None. *Tertiary:* Grand Forks, Fargo.

OHIO

Primary: Wright-Patterson Air Force Base near Dayton (heavy bombers), Rickenbacker Air Force Base near Columbus (stratotankers); Rickenbacker is also called "Lockbourne Air Force Base" on some maps). *Secondary:* Cleveland, Youngstown-Warren area. *Tertiary:* Toledo (east-northeast from Delta to Lake Erie), Cleveland (everything within twenty miles of Lake Erie from Vermillion to Geneva), Windham, Mansfield, Lima, Steubenville, Bellaire (Wheeling, West Virginia), Middletown, Miamisburg, Dayton, Vandalia, Springfield, Canton, Akron,* Columbia.*

OKLAHOMA

Primary: Altus Air Force Base (stratotankers), Clinton-Sherman Air Force Base near Clinton. *Secondary:* Oklahoma City, Enid (Vance Air Force Base). *Tertiary:* Tulsa,* El Reno, Oklahoma City, Lawton, McAlester (target is ten miles south-east of McAlester).

OREGON

Primary: None. *Secondary:* Portland,* Mt. Hebo (474N radar). *Tertiary:* Canby, Salem, Eugene, Klamath Falls, Madras.

PENNSYLVANIA

Primary: None. *Secondary:* Pittsburgh,* Harrisburg, Scranton,* Willow Grove.* *Tertiary:* Natrona Heights,* York,* Waynesboro,* Chester, Erie, Beaver, Johnstown, Altoona, Harrisburg, Mechanicsburg, Lancaster, Reading, Allentown, Bethlehem.

RHODE ISLAND

Primary: None. *Secondary:* Newport, Quonset Point. *Tertiary:* Providence,* Westerly.

SOUTH CAROLINA

Primary: Charleston complex (submarine base; including everything east of Summerville between Goose Creek and Folly Beach). *Secondary:* Parris Island Marine Base at Beaufort, Myrtle Beach, Sumter. *Tertiary:* Greenville, Greer, Columbia (and a second target ten miles southwest of Columbia), Aiken (target is five miles northeast of Aiken), Hardeeville (everything within twenty miles of Savannah, Georgia), North Augusta.

SOUTH DAKOTA

Primary: Ellsworth Air Force Base complex (Minuteman missiles, heavy bombers; including the entire area within a line connecting Albion, Montana; a point ten miles north of Faith; Midland; a point ten miles south of Velvidere; Scenic; Sturgis; Spearfish; and—along the state line—and Albion again). *Secondary:* None. *Tertiary:* Sioux Falls, Rapid City.

TENNESSEE

Primary: None. *Secondary:* Memphis.* *Tertiary:* Nashville, Chattanooga, Signal Mountain, Knoxville, Alcoa, Bristol.*

TEXAS

Primary: Amarillo Air Force Base, Dyess Air Force Base at Abilene (heavy bombers), Bergstrom Air Force Base at Austin, Sheppard Air Force Base at Wichita Falls, Carswell Air Force Base at Fort Worth (heavy bombers). *Secondary:* Beeville, San Antonio, Texarkana, El Paso, Houston,* Sherman-Dennison, Big Spring, Kingsville, Lubbock, Corpus Christi,* San Angelo, Del Rio, Laredo. *Tertiary:* Dallas,* Tyler, Longview, Caddo Lake, Abilene, Odessa, Midland, Waco, Killeen, Bryan, Alice, McAllen, Harlingen, Brownsville,* Freeport, Lake Jackson, Galveston,* Beaumont.*

UTAH

Primary: Hill Air Force Base at Ogden. *Secondary:* Tooele, Dugway (chemical warfare testing center). *Tertiary:* Salt Lake City,* Orem-Provo.

VERMONT

Primary: None. *Secondary:* None. *Tertiary:* Burlington.

VIRGINIA

Primary: None. *Secondary:* Washington, DC complex,* Richmond,* Norfolk-Portsmouth,* Newport News-Hampton,* Radford, Dulles Airport, Mt. Vernon. *Tertiary:* (Bristol, Tennessee),* Roanoke, Lynchburg, Hopewell, Petersburg, Blackstone, Yorktown, Chincoteague, Quantico, Manassas.

WASHINGTON

Primary: Fairchild Air Force Base at Spokane (heavy bombers), Bremerton (submarine base). *Secondary:* Oak Harbor, Tacoma,* Walla-Walla, Seattle,* Everett, Richland (the Hanford nuclear processing facilities northwest of Richland). *Tertiary:* Copalis Beach, Vancouver, (Portland, Oregon), Spokane.

WEST VIRGINA

Primary: None. *Secondary:* None. *Tertiary:* Wheeling area (everything north of Moundsville), Huntington, Charleston, Cedar Grove.

WISCONSIN

Primary: None. *Secondary:* Madison. *Tertiary:* Superior (Duluth, Minnesota), Eau Claire, Green Bay, Appleton,* Oshkosh, Onalaska, (Dubuque, Iowa), Mequon, Milwaukee,* Waukesha, Racine, Kenosha.

WYOMING

Primary: Warren Air Force Base complex (Minuteman missiles; including the entire area within a line connecting Cheyenne, Federal, a point ten miles northwest of Wheatland, Guernsey, and—along the state line—Cheyenne again). *Secondary:* None. *Tertiary:* Casper.

① Mobilization and CD 8-81 (JCO)

In case of war:

1. Conventional, not escalating to nuclear
2. Gap between reach of war and escalation to nuclear, possibly several months
3. Attack could be less than all out.

Can't mobilize the economy if large number of urban workers head for the hills, a good possibility with no CD plan.

In '62 missile crisis, we saw some faster marches to get us to a faster response. Could expect same again with large scale attempt to influence national decisions.

Says question is, in crisis, how will the populace react, and how will that affect capacity of government to make decisions.

Sept 1-3, 1939, British evacuated 1.5 million women and children out of London and other large cities. Didn't know an additional 2 million left on their own.

Last Russia, 1944-45 nearly everyone left before advancing Soviet forces arrived. This during one of Europe's hardest winters. No plans or arrangements for transport, food or shelter. People had been ordered to stay put. Halfway, and 1/4 to 1/3 perished due to cold, hunger and exposure.

1962 Cuban missile crisis, large number of vacationers in Florida headed home and during height of crisis many locals took vacations.

During Three Mile Island incident, c. 40% of those within 15 mi of the plant, (145,000 out of 370,000) evacuated spontaneously.

CD planning could have substantial effect on will and morale of the people.

② Crisis Relocation America's Halfway JCD 12-83

Could save 180 million with operational CRP. Present planning does not assure continued survival. Long range recovery planning is simply not considered. Survivors will have to look to local communities for vital supplies, not Washington. Burden will fall on local government and strain facilities to the breaking point. Evacuee community to bring vital supplies and services along but no prior planning with host.

Hosts usually small, no CD relief. Need planning funds now but only get funds if plan implemented. No pre attack planning for assuring trained CD people.

Is doubtful sufficient vital supplies can be moved. Such should be pre-stored with host, including hand tools for shelter hardening, all items with long shelf life.

Is question on needed police personnel in host area. Expect 170 million total in host communities. Most hosts unable to feed their guests for extended period. America dies in storing long shelf life food in host towns, funded by federal

IN DEFENSE OF CRISIS RELOCATION

— Walmer E. Strobe

Crisis relocation has been getting a bum rap recently from some people who should know better. It is bad enough when the international anti-nuclear movement cries that there is no possibility of evacuating our cities or an otherwise sensible United States Senator insists that the Russians would start World War III if they noticed any unusual traffic over Washington's 14th Street bridge. Things are getting out of hand when civil defense advocates join the disinformation campaign by denigrating crisis relocation in favor of their own preference — usually blast shelters. I'm a longtime advocate of blast shelters myself but I also know all too well the program limitations as they apply today. Others would do well to get back in touch with reality . . .

The brief defense of crisis relocation is that it is the only civil defense measure that could alter in a major way the current vulnerability of the American people to nuclear attack in the near term; say, the next two to ten years. It is true that a nationwide shelter system — blast shelters in the cities and fallout shelter elsewhere — could save as many lives as a well-executed crisis relocation and sheltering operation, perhaps more. And, high quality shelters close by where people are could save great numbers of lives under a wider range of scenarios including that of a surprise attack. Such a civil defense program — a nationwide shelter system — was proposed to President Eisenhower in 1956 by the Federal Civil Defense Administration. It was estimated to cost \$50 billion then and would cost at least three times that much now. Of course, it was planned to be accomplished over a ten-year period . . .

The consensus of military strategists is that the late 1980s will be the most perilous with respect to deterring nuclear war — the "window of vulnerability" that has been spoken of. Preparations for crisis relocation and construction of fallout shelter in the hinterlands could be in place in as little as two year's time and would provide high population survival under most plausible scenarios. It is, in fact, the only basis for improving the survival of our population under nuclear attack during this decade . . .

The second point to be made is that the Russian people are going to do it, too. Remember, the Politburo had to back down in the Cuban crisis and decided that we would never put them in that position again. Along with their military buildup, they put renewed emphasis on civil defense. The Soviets had been incorporating blast shelters into new construction since World War II, but, as we have already noted, a nationwide shelter system is a longterm project and they weren't all that far along. Our Pentagon planners didn't give much credence to crisis relocation until they discovered about 1968 that the Soviets had spent the previous five years making it the center piece of their civil defense effort. The Soviets continue to incorporate shelter in new construction but right now and for many years to come their planned response in a future deep crisis includes the evacuation of their cities. Without a mature and well-planned program of preparedness for crisis relocation, what options would an American President have, once the Soviet Union began to evacuate its cities? . . .

A few final remarks may be in order. The Administration's proposed civil defense program based on crisis relocation is not easy to defend. Priced at about \$4 billion, it has been stretched out to seven years of accomplishment at the urging of the Office of Management and Budget. Thus, the main argument for the program, namely, that it offers the only hope of reducing the vulnerability of the population in the short term, is largely vitiated by the slow pace of the proposed deployment. That program could be accomplished in a period of three years or less if the Administration undertook it seriously. Such a schedule would support arguments that could make more sense to the Congress, which has turned down the stretched-out program the past two years, although not on the basis that it is too little too late.

It also can be argued that the Reagan program would have a more solid basis if it included a long term commitment to the incorporation of shelter into new construction as a routine matter. Then, crisis relocation could be presented as the interim capability until a nationwide shelter system could reach fruition. Shelter and evacuation are the central countermeasures for protection of life and property. But it is misleading and counterproductive to argue for one over the other. The two options are not alternatives. The American people deserve both. And they need crisis relocation right now.

William K. Chipman is the Director of the Population Protection Division of the Federal Emergency Management Agency. B. Wayne Blanchard is a Systems Development Specialist for Civil Defense Programs in the Emergency Planning Branch of the Population Protection Division. Both have been awarded doctoral degrees (SJD and PhD respectively), following completion of dissertations on civil defense.

CRP

MOBILIZATION AND CIVIL DEFENSE

OR

SUPPOSE THEY CALLED A MOBILIZATION AND NOBODY CAME*

WILLIAM K. CHIPMAN and B. WAYNE BLANCHARD

For the last several years the United States Government has been increasingly interested in the problem of mobilizing the economy in time of international crisis or war. Today mobilization planning proceeds upon the recognition that (1) conventional hostilities may not necessarily escalate to nuclear warfare; (2) if a conventional war did escalate to nuclear exchanges, this might not happen for a considerable time, possibly a number of months; and (3) even if nuclear exchanges did occur, they might be limited to less than an all-out attack upon the U.S. and its centers of industrial production. In all three scenarios mobilization activities would be most important — if not crucial — to successful conclusion of the war.

What would happen, however, if the need existed to mobilize the economy, but the people were not around to accelerate

istence of adequate civil defense to protect the population will contribute to maintaining social cohesion, and provide a basis for accelerated production under conditions of either protracted international crisis or actual combat, up to the most acute level of crisis. In other words, civil defense capabilities could have a positive effect upon the mobilization potential of the U.S. during a crisis by reinforcing perceptions that efforts were being made to protect the population, thus inhibiting social disintegration as well as the urge to evacuate prematurely. Widespread spontaneous evacuation would obviously impact adversely upon mobilization.

At an acute level of crisis, civil defense plans could be activated calling for relocation of the population from potential risk or target areas — to the extent that such crisis relocation plans actually existed. Or,

by national leaders even without adequate civil defense. But in a crisis involving potential or actual U.S.-Soviet hostilities, widespread public anxiety will result, particularly at more intense levels of crisis involving the potential or actual use of theater nuclear weapons. The problem for national leaders would then be to reinforce the tendency to close ranks in time of stress, and to minimize disruptive or centrifugal tendencies. At the more acute levels of crisis, in which nuclear attack was seen as a real possibility, this is likely to require more than exhortation from national leaders, to alleviate citizen anxiety.

IN A CRISIS INVOLVING ... HOSTILITIES, WIDESPREAD PUBLIC ANXIETY WILL RESULT.

DEFINITION ... MOBILIZATION OF THE ECONOMY:

THE ORDERLY TRANSFORMATION OF INDUSTRY FROM ITS NORMAL PEACETIME ACTIVITY TO THE PRODUCTION OF ESSENTIAL MILITARY AND CIVILIAN GOODS AND SERVICES NECESSARY TO SUPPORT THE NATIONAL DEFENSE OBJECTIVES. IT INCLUDES THE MOBILIZATION OF MATERIALS, LABOR, CAPITAL, PRODUCTIVE FACILITIES AND CONTRIBUTORY ITEMS AND SERVICES.

—Editor's comment.

production? What if large numbers of urban workers took to the hills in a major crisis because adequate civil defense did not exist? It is quite conceivable that a future mobilization might be greatly degraded because large numbers of people decided they had no choice but to take measures to protect themselves and their families, just as the U.S. Government has taken measures to protect its key leadership.

The relation between mobilization and civil defense should be obvious. The ex-

if the U.S. were attacked with only short warning, plans would be activated for protecting the surviving population from radioactive fallout in-place and for conducting lifesaving CD emergency operations, to improve survival and thus the basis for eventual reconstitution and recovery.

Factors Affecting Population Response

It may well be true that population response during a period of developing tension could be influenced, to a degree,

During the 1962 Cuban Missile Crisis, there were some calls for protest marches and demonstrations to oppose the U.S. blockade, as well as other incipient attempts to influence U.S. government decision making, by minimizing the nature of the perceived threat and by seeking to soften the U.S. response. A severe crisis in the 1980's — involving protracted alert and/or combat — might well lead to much more pronounced disunifying activities than were attempted in 1962, conceivably including large-scale and concerted attempts to influence decision making by national leaders.

Professor Michael Howard of All Souls College, Oxford, has pointed out the fundamental importance of social factors in times of acute crisis:

... the question insistently obtrudes itself: in the terrible eventuality of deterrence failing and hostilities breaking out between States armed

with nuclear weapons, how will the peoples concerned react, and how will their reaction affect the **will and capacity of their governments to make decisions?**

It is not easy to visualize a greater test of social cohesion, [than the strain engendered by the possibility that a conventional war might "go nuclear" at any moment] **especially if no serious measures had been taken for the protection of the civil population.** (*Foreign Affairs*, Summer 1979 issue, pp. 982 and 985. Emphasis added.)

This suggests that one factor likely to be significant in population response to governmental attempts to maintain or accelerate production is the perceived adequacy of civil defense, should a period of protracted alert or combat escalate to attacks on CONUS. Current U.S. civil defense capabilities are minimal. However, steps to improve CD capabilities and to provide information to the public on nuclear attack effects and methods of protection could help ameliorate public concern — thus contributing to social cohesion and ac-

celerated production during a mobilization period.

Spontaneous Evacuation

History suggests that possibly large-scale spontaneous evacuation is a real possibility. For example, between September 1st and 3rd, 1939 (when the British declared war on Germany) the British Government "crisis relocated" approximately 1.5 million women and children out of London and a few other large cities. Unbeknownst to the British Government at the time, however, was the fact that an additional 2 million left on their own.

SPONTANEOUS EVACUATION IS A REAL POSSIBILITY

In East Prussia in 1944-1945, nearly everyone left before the advancing Soviet forces arrived — during one of the hardest winters Europe had seen in many years. Not only were there no plans or arrangements for transportation, food and shelter, but the people had been ordered to stay put. They left, however, despite such severe conditions that some estimate that a quarter to a third of the evacuees succumbed to cold, hunger, and exposure.

It has been reported that during the 1962 Cuban Missile Crisis many tourists returned home from Florida, and that considerable numbers of city residents "took vacations" during the height of the crisis.

Finally, it is of note that during the Three Mile Island incident, roughly 40 percent of the population within 15 miles of the plant (145,000 out of 370,000 population) spontaneously evacuated.

It is clear that social factors in a situation of crisis or combat could have great, even profound, impact upon U.S. will and, therefore, ability to mobilize. United States civil defense capabilities, in turn, could have a substantial effect on the will and morale of the people.

Efforts are being made to improve our civil defense capabilities, but there is a long way yet to go. If the U.S. Government is to plan on mobilization as a response that could be critically needed in a future severe crisis or war, due regard should also be given to narrowing the gap between where we are now in our civil defense preparations and where we ought to be. □

*The views expressed herein are solely those of the authors and do not necessarily represent the views of the Federal Emergency Management Agency or the U.S. Government.

Optimistic for Soviets is 17 million, 20 = 89% of pop. They estimate 4-6%.

Some say can evacuate much of pop in 48-72 hrs. Can cover war by doing at night or under cover. Some say can evacuate, shelter or combination. Feels only small % estimate (Other info doesn't agree)

If didn't Soviet evacuation go on alert, maximum readiness for attack but can only hold so long. President orders US evacuation and economy halts while SO production continues as workers have shelter under their feet. SO even protects its cows. In end they may have more cows than we have people.

Some think it will be into 1990's before we can win nuclear war. Sees no meaningful warning here till '86 or '87. This is the best time for SO to strike. Too many Americans believe nuclear war not winnable. Soviets believe it is, and have said so. Some say SO won't attack because we can destroy 200 of their cities and they'd all die. After, lost 1700 cities in WWII and their society didn't end. Cities can be rebuilt, someplace else if necessary. People, not cities important, the vital ones will be saved. In WWII, 92% of Wuppertal, Germany destroyed - War rebuilt on same spot.

US must stockpile vital supplies. If away from targets, all need is a fallout shelter. Wash DC efforts to evacuate into Va. but Va will stop at border. Under federal law, Va doesn't have to cooperate. Don't have that problem in SO. In Cuba crisis, Calif. said would help refugees from other states one, and legally, could.

Some say to evacuate LA, would have to take people to Ariz., taking 7-14 days (bull) War can come in 7 to 35 min, no shelter. (Common anti argument) Can't give priority to the skilled. Would be lamed and feathered, (Don't mention SO give priority). Says can't expect fancied people to do right thing, such as turning off power and gas.

In a crisis people will try to maximize their survival, but may not know right thing to do. In Cuban crisis Californians ran for the high

Sierras, the worst place to be for the fallout pattern

Some say one or two people working for a day with proper knowledge and equipment can build a shelter. (Not if in a blank area, and still need 24 hr. warning unless build ahead of time. Apparently speaking of building ahead; I spoke of Harry Miller, plans from Dept of Commerce.

Some say the Soviets don't target cities. Says US public is ignorant of bomb effects as were 35 years ago. Most unusual radiation effects decline. If home in fringe area, get flammable away from line with windows. Remove diapers, etc. = 70% reduction in chance of fire

... as our cities diminish while the SO increased. US didn't believe SO

A Plan For Survival Could We Survive a Nuclear War

20/20 with Hugh Downs, Ch 7, 4-15-82 10pm.

Segment by Tom Jernold

Cen. Downs next week is Ground Zero Week. To a coalition of anti nuclear groups sponsoring meetings across America. ^① Many believe nuclear war would mean the destruction of whole nations and finally all of mankind. Others believe up to 80% could survive with the right CD program, or 180 million survivors and 50 million deaths.

Report by Tom Jernold

The new push for CD is coming mostly from conservatives ^② who claim a civil defense gap. The Russians are ahead of us and we must close that gap. Creates a dilemma. If either side thinks CD makes nuclear war more survivable, won't that make it more likely? ^③

Cons shifts of post WWII CD, with the question what do we do in case of nuclear war. Said for years in DC the CD planners have gone along with the MAD doctrine ^④, but now planning for life after doomsday. Head of FEMA says nuclear war will be messy but manageable. Plans break down into 3 key components. First, post attack plans. Second, plans for the continuity of government so the leaders will survive to reestablish government. Third, CRP

First considered the post attack plans, entitled Life After Doomsday. The government plan begins with burying the dead. ^{⑤⑥} Are looking at bulldozers and backhoes and other equipment that can be used for digging mass graves. Large amounts of opium have been stored to ease the pain of the injured and dying. ^⑦ One of the biggest stacks in the world, 71,000 lbs, that would be made into pain killing morphine.

In a salt mine near Hutchinson, Kansas, a vault of the Fed of K.C. and emergency E.O.C. Have stored records to conduct business as usual. ^⑧ Bankers would live here, with a 30 day food, and linked by computer to other emergency banking centers all across the country and under-

at one at Culpeper, Virginia, 700,000,000 million bills of various denominations are stored to revivify the economy. One pamphlet says victory will belong to the side that recovers first. ⁽⁹⁾

Cover the stockpiling of raw materials, 12 million dollars worth, to start productions again. Including barrels of titanium stored outside Baltimore. S. speaks says not only the people, ⁽¹⁰⁾ but the industrial base must be protected and in a location where it could be rapidly expanded. Can only provide this with an adequate CD program.

Part 2 cover plans for the continuity of government. Last month in DC ran the first nuclear war drill to be conducted in over 20 years. Various department officials met with FEMA. Another war game is scheduled for next month. Mr. Weather is a key installation for these war games, so secret that publicly it doesn't exist. In Virginia near DC, ranks as a key shelter. It is underground 3 story buildings to house Washington top 2,000 officials, here or in similar shelter. In rail house speakers would be sheltered, but not the other members. ⁽¹¹⁾

O'Neil said he couldn't discuss it. A congressman said he expects that the government, as we know it, would be totally obliterated. The plan calls for a few key officials to rush to shelter. Mr. Weather has communications to connect them with similar shelters all across the U.S. Have sheltered radio antennas that pop up. Showed the antennas rising at an installation near Olney, Maryland.

Pictured a computer that would give the death toll. ⁽¹²⁾ Computer screen showed a map of San Francisco, where one of the 3½ million there, expect 2½ million fatalities. These shelters fully empty now but in attack the federal government would issue directives to thousands of state and local officials who have similar shelter. Showed one in Framingham, Mass.

Per an official there, all the state agencies would gather there to make the decisions for nuclear war survival. The bunker can sleep 300 in shifts, has decontamination facilities, communications, and even a 2 compartment refrigerated morgue to hold dead until can be taken outside and buried.

Part 3 covers CR and gives a scenario of the President giving the order to evacuate. Shows one of the Doomsday tapes that would be used by TV stations, rarely ever shown. If you see it, it may be the last TV program you ever see. Covers what to and where to go, Washingtons version of "Goodbye America". Will signal CRP for 418 cities that the Pentagon thinks are at risk. Says all over 50,000 are on the hit list.

Little hope in event of a surprise attack, but in the event of increased international tension such as the Cuban Missile crisis, 160 million could be evacuated to safer areas, or so the planners hope. People would be asked to bring food, bedding, credit cards⁽¹³⁾ and shoes. Would have to leave the pets in the car.

Cambridge, 100,000, location of Harvard, plans to evacuate upcountry to Greenfield, a low risk community. A 2 hour trip. The Greenfield CO director says he thought frightens him due to numbers coming. Will try to do what can with hopelessly outdated and inadequate equipment. Showed the CO supplies, explained by a local spokesman. Had the CO crochets packed in 1954, packed in air tight steel containers, and for the spokesman still good because air tight⁽¹⁴⁾. Says don't taste that good, but not harmful and if have to use them, better than nothing.

Covered housing in the town, such as at Sears, 1500 in a damp basement. A hears spokesman doubted they could take 1500. Navigator brought up the point that wrong address had been listed for the store. Also showed a motel where 680 were to be housed in 39 rooms. Said most in town don't know of plans to house 1400 in the theater, or 1200 in a vandalized former factory.

Covered the postal departments plans to continue mail service. In event of nuclear war would have change of address cards for people to fill out. Also offered to continue delivering mail⁽¹⁵⁾

Navigator said asked Guiffreda about feasibility of all those preparations, who replied I don't think they explained it to you adequately enough. Said it's not a vacation. He's recorded by T.K. Jones, top Pentagon official who quoted in LA Times, "Everyone's going to make it if there are enough Americans to see around."

People laughed at Jones, but then showed stills of digging shelters.

Covered the special vaulting arrangements for the Declaration of Independence and the Constitution, whereby at the end of the day they slide down into their own special bomb shelter. Intended to survive even doomsday.

20/20 has conducted its own survey. About 2/3 don't think the government's plans are very good. 80% don't know where they'd go if the missiles were coming, and over half are fatalistic and think they'd be killed if an attack came. (16)

- ① I wonder why these groups are so active right now. Because Reagan wants to put new missiles in Europe. It does coincide with the Soviet sponsored peace offensive over there.
- ② Another right wing program? Only conservatives interested in survival thru CD?
- ③ Failed to bring out anything on the Soviet CD program, its extent, or the fact they have a completed program already in place, and that it is based on CRP.
- ④ I don't know as it's so much the CD planners were going along with the MAD doctrine, as the lack of funds kept them idle, with one exception. Tho there was little or no planning for the general population because it wasn't considered necessary under the MAD doctrine. The leaders of government didn't practice what they preached, and planning was done to protect the leaders. After all, facilities such as Mt. Weather have existed for years.
- ⑤ Were they don't explain if they are talking about large numbers of dead in the cities or in the host areas. Those in the cities, not already inoculated, will be left to rot. Individual bodies may be buried by friends, or relatives, if possible, and where such does not conflict with continued survival.
If speaking of deaths in the host areas, and if CR is used, there should only be a limited number of people left in the cities, there is the good possibility that the government will not be involved.
- ⑥ In either case, I doubt there will be little use of construction equipment to dig mass graves. Digging mass graves requires equipment, fuel, and support for the equipment operators. Further, if mass graves are necessary, that means a very large group of body gatherers who also must be fed and supported. Confused thinking again, mixing '60s and '80s planning.
- ⑦ Though storing 71,000 lbs of opium, no mention was made of lab equipment to process the opium into morphine. How long will it take? How do they intend distributing it?
- ⑧ Remember, if currency use ceases, the government ceases to exist.

- ⑨ We are too far behind. Even our own estimates show the Soviets recovering first.
- ⑩ Protecting the people? Only to die of starvation soon after? You have to feed the people who turn the raw material into finished goods. So far, I've heard nothing about a program of stockpiling food and other critical consumer goods.
- ⑪ Here again, protection for the elite, constructed while the public was left to face the minutes in the open. Think this was where they stored the stacks of cases of Mountain House freeze dried food. No survival biscuits here.
- ⑫ I doubt many figures will show up on that computer, you can't count dead bodies from a bunker. As to state and local officials receiving orders, this assumes they too have similar shelters. I doubt many have.
- ⑬ It is expected that most evacuees will be short of cash. Plans call for both individual and business credit to be extended for a given period.
- ⑭ They're rancid, because made with lard, but probably won't make you sick.
- ⑮ Forget it. The postal service means transportation intact and postal workers on the job. Large terminals are in large cities, and such will be abandoned.
- ⑯ Polling the general public on their attitudes toward civil defense may give up an opinion, but in most cases, a totally uninformed opinion.

THE ROOF on the church in our town is maybe 40 feet above the ground, give or take a bit,* and what's worrying us is how anyone is going to hoist 120 cubic yards of dirt up there. Our quandary comes of having boned up on Washington's Crisis Relocation Plan, one aspect of which calls for putting at least a foot of earth on the roofs of rural buildings that are designated for use as fallout shelters. Naturally, the boys in Washington have a term for this

*For the sake of accuracy we were going to take measurements, but the rummage sale was in progress and we couldn't get near the place.

It's a wonderful Washington idea called Crisis Relocation, to be used in the event of nuclear attack. You just relocate the crisis

An Uncivil Defense

Condensed from COUNTRY JOURNAL
RICHARD M. KETCHUM

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procedure—"crisis upgrading," they call it. But a man we know calls it "damned foolishness—even if a building'd stand all that weight. And even if you could pile all that dirt on a pitched roof, what's going to keep it there?"

The church is not the only building to catch our eye; we've been taking a mental inventory of all the facilities in town because we've just learned that the citizens of Monroe, Conn., will be moving here in case a nuclear attack is threatened, and we want to be ready for them. There were, at last count, 14,010

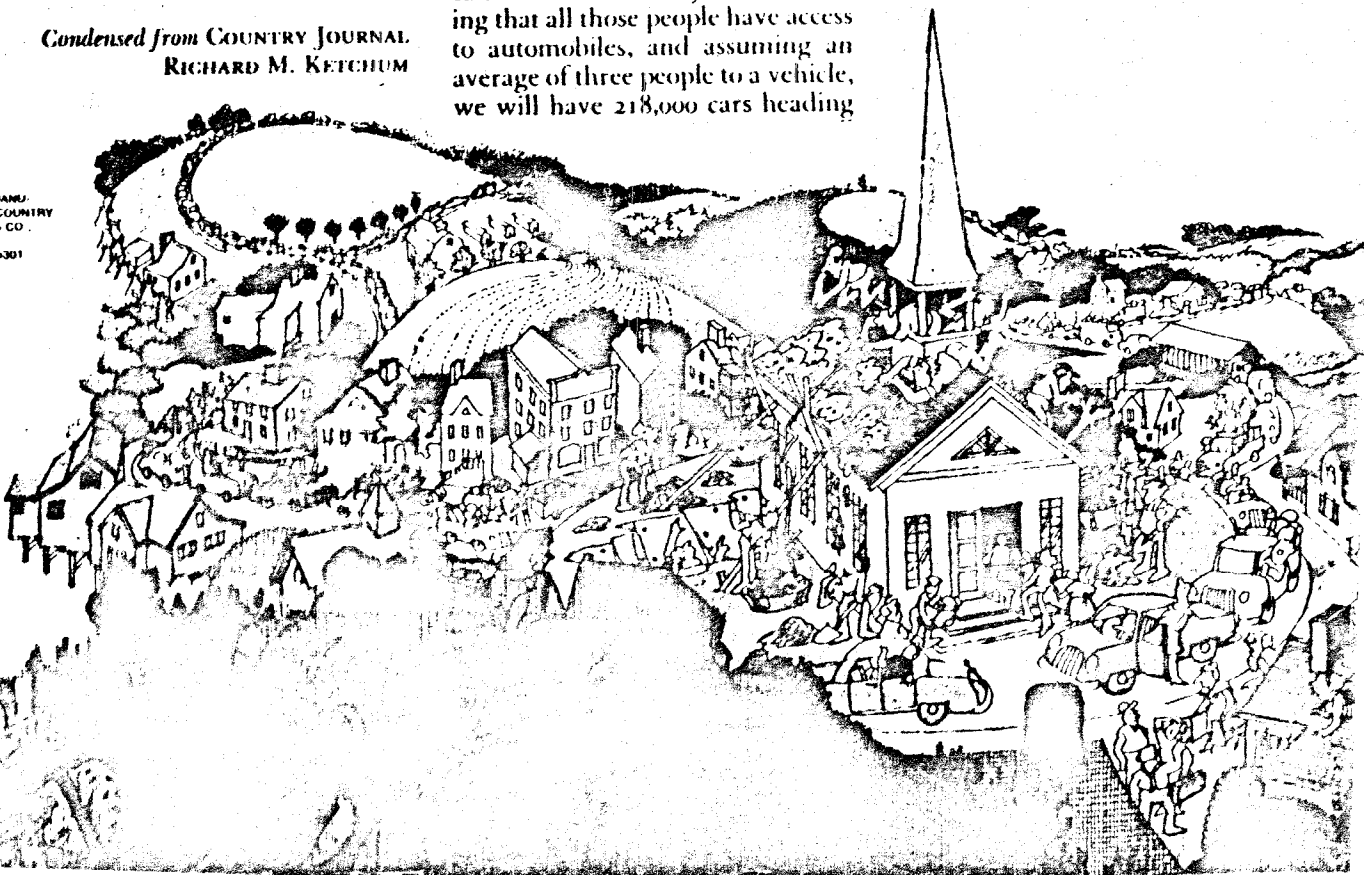
souls in Monroe, and civil-defense officials in Connecticut anticipate that 12,600 of them will head for one of the three "host towns" in Vermont to which they have been assigned. There they will stay until someone sounds the all-clear.

Before getting into this any deeper, we'd like to urge that the folks in Monroe avoid taking Route I-91 if possible, since a lot of their neighbors from Connecticut will be coming that way. In fact, 654,000 Connecticut residents are scheduled to head for the Green Mountain State, according to the Federal Emergency Management Agency (FEMA), which is charged with moving 150 million Americans from cities and other high-risk locations to the countryside. Assuming that all those people have access to automobiles, and assuming an average of three people to a vehicle, we will have 218,000 cars heading

north from Connecticut. I-91 will accommodate 3000 cars per hour (assuming no breakdowns, accidents, panic or other problems), so it will take nearly 73 hours—a little better than three days—for those cars to cross the Vermont state line bumper to bumper.

Once the Monroviens arrive in Manchester Center—and we should warn those who insist on taking I-91 that the going will be a lot slower after they get off the interstate and onto Route 11—they should ask directions to their host town. Under no circumstances should they linger in Manchester Center, because the residents of Ridgefield, Conn., will be arriving there at the same time, and even on a normal day there is usually a traffic jam at the intersection of Routes 11, 30 and 7. (This is bound to be even worse after the new Grand Union opens.)

It's safe to say that no one here has decided exactly where the Monroviens will be housed. We're guessing that about 3000 of them will stay with us (that's almost twice our population), while the remainder go to the two other towns assigned them. Meanwhile, we will have to find 40 square feet of living space for each of our guests in what FEMA calls a "congregate-



care facility." No one here has ever seen a congregate-care facility, but if you were to take the school, the church, the post office, the library, the three inns, the sportsmen's club and the alternative school, you'd have a fair amount of space. If you add the grocery and general store (though they are so jammed with merchandise it's hard to see how they'd accommodate guests), you could probably manage.

Perhaps this is the place to point out that FEMA's plans "do not call for placing evacuees in private homes," but even so, a few Monroe visitors might be in luck. We see that the Department of Housing and Urban Development has published guidelines for requisitioning

homes "whose owners have disappeared" following a nuclear attack, and has suggestions on such thorny problems as determining what is a fair rent, which applicants have priority, what the grounds are for evicting tenants, and when to return the property to lawful owners who unexpectedly reappear. And if an attack actually occurs, preventing the Monroviens from returning to Connecticut, they will find that the post office has available postage-free, emergency-change-of-address cards so they can notify surviving relatives and friends of their whereabouts.

If, by some error or miscalculation, the nuclear strike does not follow FEMA's assumptions and

Vermont, instead of Connecticut, is bombed, the visitors from Monroe will have a lot of pick-and-shovel work to do, along with the rest of us, converting their congregate-care facilities into fallout shelters by hauling earth up onto the roof. (Regrettably, nothing in the literature tells how you collect dirt if the ground is frozen solid.)

As we see it, the trouble with making plans for what the citizenry will do in the event of nuclear war is that before long you begin to accept the possibility of nuclear war, when in all truth the only way to plan for a nuclear war is to plan never to have one. ●●●●●

DAVID ISRAEL

Every evacuation list has a price

"I'm probably the only public official in the country who's getting hate mail from his 88-year-old mother."

— Robert L. Kingsbury

I called up Bob Kingsbury yesterday because I figured maybe we could cut a deal. Kingsbury, of course, is director of the county's Department of Military and Veteran Affairs. And last week he made a splash when he revealed his plan for a systematic evacuation of Los Angeles in the event of nuclear war.

Kingsbury said that we should have a priority list of evacuees. First out by his reckoning would be those deemed essential for the rebuilding of society, those who are "young and physically fit, skilled specialists of all sciences, trades and occupations, and a well-balanced labor force." Last out would be "the elderly" — that's when he ticked off his mother — "the infirm, the unskilled, the unessential and those whose presence in the relocation area would only serve to place a burden on the survivors."

So I called up Kingsbury to get a fix on where I stood. Frankly, I don't want a ringside seat at the apocalypse when, suitably forewarned, I could be snuggling against another top-priority evacuee in a fallout shelter in Daguerre.

"Yeah, listen, I was just wondering when, according to your calculations, I get out," I told Kingsbury.

"I really couldn't say," he said.

"I'm 31 and I write a newspaper column," I said.

"Well, maybe you have great ability at building something; that would count very heavily," he said.

"Nope, can't hang a picture," I said.

"Let's take me then, I probably wouldn't get out too quickly," he said.

"Oh, you're being too tough on yourself," I said.

"Not particularly," he said. "I'm age 58, and I don't know anything about producing food, shelter or clothing. If I get out down the line, that'd be fine. But I'm hardly essential. And I'm not going to worry about it."

I explained to Kingsbury that I was beginning to understand the intricacies of his plot, but that there were a variety of definitions of essential.

"In other words," I said, "when do the Dodgers get out?"

"That's a loaded one," he said.

"I'm a great baseball fan. And from a recreational standpoint, it would be swell to have them. Maybe they have other skills I'm not aware of."

"Don't get carried away," I said.

"These days they're having enough trouble just catching, throwing, hitting and pitching."

"I have a brother in Illinois who likes to call me when the Dodgers are doing badly," he said. "They are beginning to embarrass me."

In the event of nuclear war, that does not bode well for the Dodgers. Because while he sounds like a lovely man, Kingsbury is not the type who embarrasses easily.

In the past week, he said, he has received many critical telephone calls and letters, but they haven't bothered him a bit.

"There's been a lot of flak," he said. "I've been called everything from a Nazi to a paperhead."

"A what?" I said.

"A paperhead," he said. "I'm not quite sure what it is. But I felt my head after I hung up and I was assured nothing had changed since I last looked in the mirror."

Perhaps one of the reasons he is so certain that his proposal is sensible is that Kingsbury, a veteran of 23 years in the Army, is also a veteran of nuclear warfare. In 1945, he was a member of one of the first patrols that went into Hiroshima after the bomb was dropped. And in 1957, he was one of the soldiers who participated in a nuclear test at Desert Rock, Nev. Wearing a gas mask, he sprawled flat in a foxhole 2,000 feet from ground zero.

"Jeez, any aftereffects?" I said.

"I've been tested for radiation, and it's not too bad," he said. "I just glow in the dark a little bit. ... Seriously, though, I've seen the devastation of a nuclear attack and I've seen that there were

survivors. It wasn't the hydrogen bomb, but there will be survivors of that, too, which is why we have to plan for the eventuality."

It was right then, I guess, that the lightbulb went off. In the bribery business — capitalism's finest hour — this could be the big enchilada. Some guys bribe building inspectors. Some guys bribe traffic cops. I wanted to be the first guy to fix the nuclear war evacuation list.

"What'll it cost me to get a top-priority rating?" I asked.

"Call me back on my private line," Kingsbury said. ■

Evacuation of L.A. not practical

LOS ANGELES (UPI) — Plans to evacuate the 11 million people who live in and around Los Angeles in the event of nuclear war are simply not practical, a local emergency panel has decided.

The Emergency Preparedness Commission for the Counties and Cities of Los Angeles said in a letter to county supervisors that it doubted that the Crisis Relocation Plan proposed by federal civil defense officials would work in the nation's third largest city.

"There are 11 million people within 60 miles of downtown Los Angeles in a unique geographical setting which does not lend itself to a plan that would require evacuating most of ... them in a relatively

brief period of time," the letter said.

The 60-mile radius includes 82 incorporated cities in Los Angeles County and the most heavily populated section of Orange County.

The letter released Monday mentioned problems of limited transportation routes, lack of resources and hosting facilities in its conclusion that the evacuation concept would be impractical.

The commission urged President Reagan and Gov. Edmund Brown Jr. to reassess crisis relocation in the Los Angeles area and provide greater chances of survival and recovery than what is offered by current planning.

"This may include antimissile defense

and protective (blast) shelter programs," the commission said.

A federal study published in 1977 concluded that 85 percent of California's population is "vulnerable ... to nuclear weapons effects in the event of attack" but said a relocation program could work "with proper planning."

Earlier this month a retired Army major who heads the County Department of Military and Veterans Affairs told supervisors that any evacuation should deal first with those who have the most "value to society," which he suggested were the young and healthy and those with useful skills.

County disowns nuke evacuation plan

Los Angeles County supervisors yesterday went out of their way to make sure no one mistook for county policy a nuclear war evacuation plan drawn up by one of their department heads which divided people into "essential" and "unessential" groups.

Supervisor Ed Edelman said he was concerned about the news media attention paid to a report by Maj. Robert Kingsbury, director of the county Military and Veterans Affairs Department, which indicated that crisis relocation should concentrate first on those who would be most needed after nuclear war.

The supervisors did not criticize Kingsbury for what they said were "well-intentioned" statements, but stressed it was impossible to decide who would determine those who should survive.

LANE 5-19-82

DOUGLAS AIRCRAFT COMPANY

3855 Lakewood Boulevard, Long Beach, California 90846

DISASTER CONTROL RECOVERY TEAM

Mail Code 7-25

March 16, 1982

Dr. Loren Fields, Chief
Nuclear Civil Protection Division
California Office of Emergency Services
PO Box 9577
Sacramento, California, 95823

Dear Dr. Fields:

We are presently covering civil defense in the classes I conduct, and a number of questions have come up in regard to the effects of fall-out on the food supply. I've attached a list of questions for your comment.

Can you refer us to any other sources of information on this subject?

Any literature you might have on the subject would be appreciated.

Yours truly,

Clarence C. Baal Jr.

Clarence C. Baal Jr.
Instructor

p.s.: You are probably already aware of the fact that the jurisdictions in the LA Basin have decided against a mini-evacuation plan. Have opted for a regional plan instead, but same won't be completed by the mid 1980's. Have told the people I teach to start making their own plans.

MCDONNELL DOUGLAS



State of California Emergency Plan

* Part Two * War (Nuclear Civil Protection) Plan

* Sect 1, Pre-Emergency Period

States 80% of California population lives in a risk area. (Study said 85%). Only 20% of potential shelter in risk area have blast potential. Outside risk areas, are existing shelter for only 10% of the resident population.

NCP plans to provide logistic support for in place, or relocations. Review rationale of CRP. Review SO CRP. Could save 70,000,000 by evacuating U.S. metropolitan areas. Time recovery a period that may last for months or years.

Map of California risk areas, Page 4

Allocations by County, prior to page 6

(Comparing allocation map of this plan, and the 1978 study, appears number allocated per county is now far less.) Page 12 and 13 are list of state agencies duties, with more details on following pages.

Page 27 Attachment 1 Warning

Page 34 Attachment 2 California Readiness Conditions.

Lists the conditions, 4 being normal, 3 take internal action, 2 public should prepare, and 1 a complete state of readiness.

Page 37, Attachment 3 Emergency Broadcast System

Participation by stations is voluntary, under FEMA funding, a number of stations will have backup protection to assure continued operations. Link to EDC not 100% certain. In emergency all participating stations go off the air. State does not contemplate use of EBS other than in war.

Page 41 Attachment 4, Fallout Shelter System

Page 43 Attachment 5, Operational Areas.

Page 45 Governor orders for war situation, followed by ARC agreement, definitions

Secs 2 Confinedness

Covers essential workers. Notifying stay puts of best nearest shelter. Host area, upgrading structures for shelter. Such authorities will supply what help and material they can. Families encouraged to take in guests. Once guests arrive, efforts should be made to park, immobilize and secure all vehicles, to reduce congestion, provide control and conserve fuel for future need. (P5) Local government responsible for securing shelter food. If flow called off, federal and state funds for reimbursement of costs incurred.

Attachment 1, Risk/Host Area Allotments

For Southern California, the host area is that area south of a line drawn west to east from Monterey to Mono Counties. Where feasible, would be hosted in own county. Essential workers hosted within 50 miles where possible. Those without wheels to be kept closest to cut down on travel time for transport. Where such by air or rail, hosted as near the terminal as possible.

Host ratio of 6-1 for guests from L.A., Orange, San Bernardino, Riverside and San Diego counties (Study was 7-1 statewide for uniform hosting) means essential worker within 50 miles and wheelers within 75 miles. all except L.A., Orange and San Diego can host their own risk population. This results in non-uniform hosting ranging 6-1 to 4-1. States also less than optimum, reduces traffic northward thru bottlenecks.

In Northern California the 9 bay area risk counties and Sacramento have insufficient host areas. Sonoma, San Joaquin, Stanislaus and Merced can host their own, but will relocate the bulk, so can absorb from adjacent areas. Means non-uniform, ranging 4-1 to 2-1.

Following page 9, updated hosting info as of Jan 1981, Page 9A has hosting allocations for Southern California and 9B for Northern. Page 9C a map of same. L.A. county can handle 287,000 of own, Orange 402,000 of own. (my question is where?) Apparently has been some change in

flow patterns as well as host allocations as now some of L.A. flow in south to San Diego County while some of San Diego County moves to Imperial. Possibly to reduce numbers thru the bottlenecks.

Page 10 Attachment 2, Essential Activities

Essential workers for a particular task could range from 10% to over 100% of the normal work force. The latter where operations must be increased.

Page 12, Attachment 3, Organizational Relocation

Active duty military don't fall under CR regulations. Dependents of some have options, as do civilian employees of military. Requirement may be relaxed for the release of the institutionalized, but if released, to be relocated with those still in.

Page 15, Attachment 4, Emergency Public Information

Page 17, Attachment 5, Movement Operations (see later material)

Page 18 Attachment 6, Economic Considerations and Controls (See Annex 8)

Page 19 Attachment 7, Redirection of Resources (See Annex 9)

* Section 3 Attack and Early Post-Attack Periods

States over 80% of States population in risk areas. In addition to nuclear attack, must consider conventional, incendiary, chemical or biological. Locations may be attacked by aircraft, missiles, aerospace weapons system, clandestinely introduced weapons, or sabotage. Federal studies say fallout the greatest threat to the greatest numbers. Mutual aid may be limited or unavailable

Page 9 Attachment 1 Radiological Defense Countermeasures

Page 12 gives formulas, time periods, for moving from shelter to fallout free area. Other features, including decontamination.

Sec 4 , System and Service Annexes

Annex 1 , Direction and Control

State divided into 7 hosting areas, A-G. See map page 15

Reproduce 39-53 Sample of booklet for public

Check following pages for news releases for info.

Notice the material prepared for duplication states don't take firearms or alcohol to a local shelter, but doesn't say for CR.

Annex 2 , Movement Operations

Risk to exceed maximum capacity of roads, causing traffic flow breakdown. Police to prevent entry into hazardous zones, speed movement of priority equipment. Near 80% risk figure again.

States expect some spontaneous evacuation, but doesn't give percentage. Expect 70% of families evacuating will use govt plan, 30% will have own destination, second home, family or friends. Such will lessen the burden on congested areas. If attack warning received, Traffic control is to assist in directing evacuees to shelter. (What shelter?) Will take shelter themselves, and as soon as possible, move people to better shelter.

Expect state military to provide transport for evacuation.

Even such as special road signs would not be made up until needed. Problem with lack of common radio frequency. Special road signs in host areas to assure on proper route, to show reception centers, rest areas, tourist aid, and to indicate a location filled.

Intend to meter traffic into evacuation routes. May mean closing some freeway ramps to limit access. Caltrans to activate certain of their traffic count stations early in crisis. Will give some idea of spontaneous evacuation numbers, and after evacuation ordered, to monitor volume w doesn't exceed capacity of highway. Also monitor by air. Ramps will be blocked with such as large trucks. Officers on the freeway to meter on to prevent bumper to bumper. Will restrict traffic inbound into risk area. When host area filled, set up road block.

Police will patrol the highways, probably by motorcycle. Traffic control personnel at staging areas, along with tow trucks, but no fire or medical. latter will be called as needed.

The "no wheels" will be picked up at nearest school. Local government to see such get from home to the nearest school.

Samples of signs shown, one "Maintain Top Safe Speed". (Looks like 55 MPH will be forgotten) Pages 21, 22, 23 shows movement, and county allocations

Annex 3 Reception and Care

Evacuees will be told to take supplies for at least the first 3 days. Initial relocation to be completed in no more than 7 days. Expect to stay at least 2 weeks. Will need a lot of volunteer help. Cadres to be alerted in host areas. When time comes, they to notify their help.

Service centers also set up in rich areas for feeding and support of essential workers, institutionalized that can't leave, and "stay puts". Training of shelter manager and staff will be done on the spot. Reception and Care units may have communications problems as no radio system. Mail may not be in full service.

In assigning quarters commercial lodging will be reserved for infants. Organizations will be encouraged to evacuate survivors. Schools a likely congregational care facility. Are figuring 40 sq ft per person. Floor monitor, drawn from evacuees, for floor of not over 100 people. Each facility to have adequate law and fire protection. Where feasible, owner or agent will will serve as manager of facility. Occupants urged to assist in upgrading. Pets will be kept in care of a vet or special pet shelter. Can't keep with.

If food rationing necessary, feeding limited to 2 meals per day. Evacuees go thru 9 stations in registering: Registration, lodging, shelter, feeding, medical, services (such as laundry) welfare, manpower and transportation (if need.) Copies of forms illustrated. Standard food allowance (max) listed, 14 lbs per 6 eggs and 7 lbs milk. (Think this less than '68 listing) Calorie not listed.

Pages 40-44 list housing allocations

Annex 4 Law and Order

Incarcerated felons will not be released as a group (s). Those convicted of misdemeanors will be released by order of any superior court judge. Local authorities will release all not considered a hazard to the public.

Use area police to aid host area police. In rich area, all off-duty and reserves called in. Go to one man car, increase patrol area, cover high theft targets such as banks, etc., 12 hour shifts. In host area, one foot patrol cop for every 4 blocks of highly concentrated evacuees.

Apparently felons will be transported to jail facilities in host area. Some police will have to remain in rich area.

Annex 5 Fire and Rescue

Include private fire and rescue services. Fire watch personnel to be trained from evacuees.

Annex 6 Medical and Health

Assume 25% of hospital in-patients can be discharged or transferred, assume will have transport for those that can be moved, and care can be arranged in host area. Medical needs will increase in host area, and medical personnel should expect to work 12 hour shifts. Local facilities will be augmented by use of packaged disaster hospitals UNDERSTAND NO LONGER HAVE

Page 9 again mentions use of these hospitals.

Annex 7 Shelter Development

Much more one yard of earth for each shelter space. Building materials will have to be taken along from rich area. If attack while upgrading structures, take cover, then continue until fallout starts. Start on structures that have soil nearby, under a critical facility.

Page 9-25 upgraded and efficient shelter

Annex 8 Economic Considerations and Controls

Can effect government to curtail some expenditures in favor of lifesaving activities as crisis approaches. Can effect runs on banks, heavy buying of survival items, increased absenteeism, spontaneous evacuations, people failing to make payments. If evacuations ordered, can effect net and banks to close to protect assets. Clearing houses and computerized accounting will close down. Banks may close, or limit withdrawals. Pension check may not come, may not get paycheck, or be unable to cash. Evacuees arrive in host area with limited, or no funds.

Refers to "State of California Emergency Resources Management Plan"

Government would start to initiate controls before declaring a crisis. In addition to wage and price controls, would provide a non-monetary exchange (credit) system for vital goods and services. During CR would be restrictions on debt payment. People and corporations are credit for 90 days, closing of banks and stock and commodity exchanges. Would be federal fiscal controls in post war period.

Federal government will finance CR. All able bodied will be given tasks, receiving credits against benefits received. Children and those unable to work will be considered wards of the state. State and local government will be on credit with claims to be submitted at the end of the crisis.

During CR both workers and host doing work supporting the action will receive essential goods and services at no cost. Includes those in essential work. Is effected all able bodied youth and hosts will be assigned tasks.

Food card is already a formula for 2 meals a day for 14 days. Will have work card (Individual Service Card)

Food list repeated

Cover losses for handling claims in the post crisis period.

Shelter stockpiling will be with food from local merchants and will be based on 2 "austere" meals per day. Do not state calories.

List 4 different units, each a list of foods to feed 100 for one day.

Course fire controls with copy of federal freeze order.

Annex 9 Resources Management

Business will be expected to take appropriate action for increased business, increase inventories and have employees ready.

affairly still intend to ship food to wholesale warehouses, then back to host areas. At the wholesaler's option, may open warehouses in host areas. Page 46 lists what items to be shipped to host areas and what not to.

Section on fuels yet to be developed. Also transportation.

Course medical and sanitation needs

Not One Word About Recovery

ON THE COMPLETION OF CRISIS RELOCATION PLANNING

8-77 Study by JHK Associates of San Francisco, feasibility of CRP in California

10-30-79 Visit to Ken Klemm, CDO, L.A. Have only 1/5 of data needed. Said 1985 is a safe completion date, and possibly before. Depends on continuing funding. Working on Riverside, San Bernardino and Inland and hope for completion by spring. May be prototype for rest of state.

#17

LRA 7 10-12-77

City evacuation problems seen in event of A-war

FRESNO (AP)— A threatened nuclear attack could find metropolitan Californians evacuated to rural areas without food, water or fallout shelters to protect them, a state official says.

Several million people would find themselves relocated to the open fields of the southern San Joaquin Valley and the deserts of Imperial and eastern Riverside counties, said Donald Pinegar of the state Office of Emergency Services.

Not only will authorities be faced with the problem of relocating the city dwellers, but they will be forced to organize construction of thousands of temporary fallout shelters, Pinegar said.

The shelters would be created from existing buildings by heaping earth over them, Pinegar said in an interview.

He admitted that no plans have been made to provide shovels or power equipment for construction. But he cautioned against a pessimistic attitude about one's chances of survival.

"Most people have a misconception on the scope of a widespread nuclear war," he said. "They have an 'On the Beach,'

everyone-is-going-to-die attitude, but that's not really possible from a statistical point of view."

State officials are working on plans for Merced and Riverside counties that will serve as models for other parts of the state.

Parts of those two counties are considered high-risk areas because of the nearness of Strategic Air Command bases and the lumbering B-52s that would carry a nuclear attack into the heartland of an aggressor, he said.

Other high risk targets include Mather Field in Sacramento, Beale Air Force Base near Marysville, and Travis Air Force Base near Fairfield, Pinegar said.

Targets of lower priority include military complexes in the San Francisco Bay Area, Long Beach and San Diego.

The plan for Merced County calls for evacuating 61,000 people from around Castle Air Force Base to an area near Los Banos. In addition, 67,000 people from San Jose would join them if officials determined that a nuclear attack was likely within a few days.

In Riverside County, about 1.2 million persons from Orange and Los Angeles counties would make their temporary homes in the Coachella Valley near Palm Springs. They would join those evacuated from around Riverside's March Air Force Base.

Loren Fields, chief of the state Nuclear Protection Division, says the plan will work if enough time is allowed, but admits a sneak attack could slay millions.

He estimated it would take up to eight days to evacuate Los Angeles, while it might take three days to evacuate San Diego.

"It's important that the average citizen think about the critical things he would need to take with him," Fields said. "People should think about stockpiling food that doesn't require extensive preparation and water."

"Our plans do encompass redirection of food and fuel, but it takes time to turn the system around, and for the first three or four days people might have to make do with what they have with them," he said.

mid for class
Z

6 Part II—Sun., Oct. 23, 1977

Los Angeles Times

New England Maps Nuclear Evacuation to 3 States

CONCORD, N.H. (AP)—New England Civil Defense officials are developing elaborate plans to transform New Hampshire, Vermont, and Maine into a sanctuary for other residents of their area if the nation is ever threatened by nuclear attack.

"We expect to have something on paper that should work, in about two years," said David Hayden, who is coordinating the plan in New Hampshire. "Then we would make various refinements."

Under what is termed the Crisis Relocation Plan, people who live in more populated "risk areas," such as southern New Hampshire, Massachusetts and Connecticut, would be evacuated to less populated "host areas."

The plan is designed to help disperse people from "risk areas" near big cities and military bases that officials believe could be used as pawns in nuclear blackmail attempts.

"This plan would never work with normal cooperation, but if World War III were imminent, and the President says, 'This is what you have to do to stay alive,' we think the people would respond. A disaster seems to make people more cooperative," Hayden said.

He said New Hampshire officials hope to sign

a federally funded planning contract.

"After the contract is signed, we will go into the cities and towns, high-risk areas first, and talk with officials about cooperating," Hayden said.

"If a town says 'get lost,' I will quietly get lost, but I'll tell them if the time comes, the people will come here, whether they plan or not," he said.

Private houses would not be used to shelter refugees, but an engineering study, compiled by computer, lists churches, banks, schools, county homes for the elderly and other buildings as possible shelters.

The New Hampshire statehouse, for example, would become the temporary home for about 7,500 people; a county Home in Claremont would house 1,200; a wastewater treatment plant in Concord 563; a seminary building in Enfield 1,700, and Dartmouth College in Hanover about 69,000.

Hayden said some states already have car stickers designating where evacuees would go.

New York state is "pretty much taking care of itself," Hayden said. That means Connecticut and Rhode Island residents cannot flee west, but must head north, most of them into New

Hampshire.

"Maine is good for a tremendous amount of people, but the problem is transportation. There would be a tremendous bottleneck at the southwestern corner of the state," he said.

The evacuation ratio calls for five "immigrants" for every "native." That would jam the streets of Concord, N.H., with about 175,000 people instead of the usual 35,000. Conway, N.H., would be transformed from a quiet resort town of about 6,000 to a crowded city of 30,000, all within 72 hours.

But officials making up the plan say there are still many more questions than there are answers.

"How do you see that they have bathroom facilities enough? How do we see that they are fed and taken care of and kept warm? What do we do with the cars?" said George McAvoy, New Hampshire Civil Defense director. "That's where the planning comes in, and there has to be a lot of it."

The weather could also pose a major threat.

"But I'm not ridiculing the program," McAvoy said, "because I believe we have to do something."

4-19-77

NATIONAL INQUIRER

Pentagon Plans to Evacuate 135 Million Americans if There's Nuclear War

The Pentagon is developing a "Doomsday" plan to evacuate 135 million Americans from 400 key target areas in the event of nuclear war.

Under the plan, Americans would use private transportation to relocate to "safe areas" from 20 to 150 miles away from their homes, and would seek shelter in public buildings — schools, hospitals, libraries, etc.

Food supplies would be diverted to the "host" areas and emergency medical services would be provided. Evacuees would live in the host areas for up to three weeks after a nuclear attack, The ENQUIRER learned.

Seymour Wengrovitz, staff director of the Plans and Systems Development Division of the Defense Civil Preparedness Agency in the Pentagon, told The ENQUIRER that the plan could save 100 million lives.

"If we do nothing, 80 million people will survive a nuclear attack, out of our present population of around 215 million," Wengrovitz said. "With good civil defense measures — with people using shelters and knowing what to do — we could save



Seymour Wengrovitz

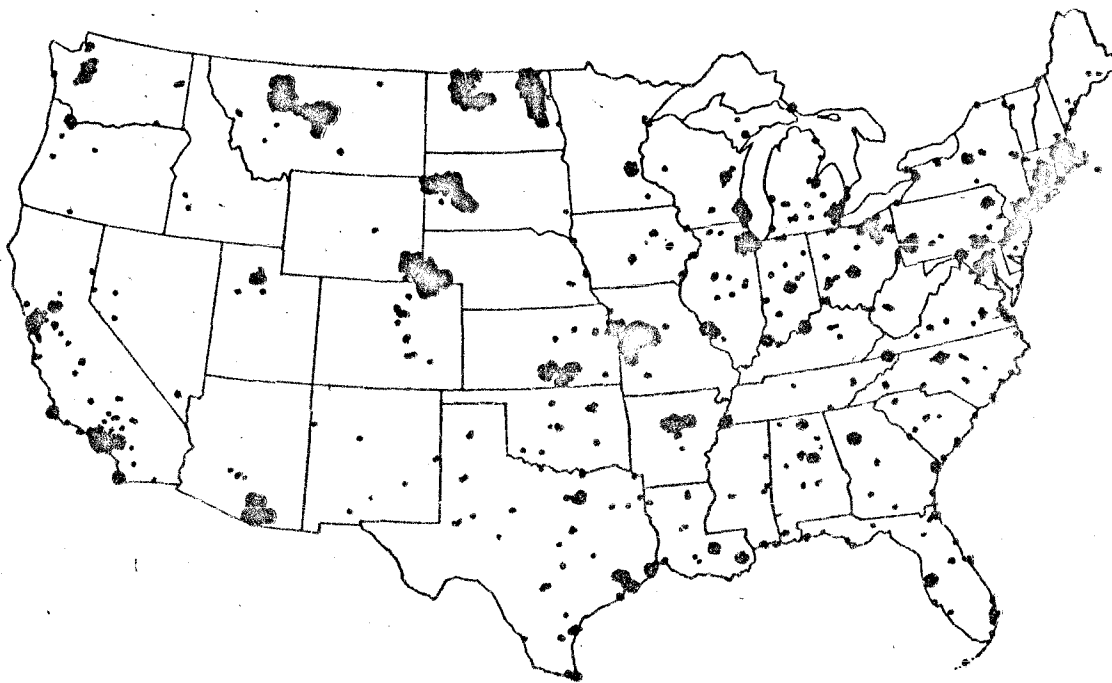
By PAUL BANNISTER

another 30 million lives. But with good relocation planning, you can save still a further 70 million lives, or a total of 180 million people."

So far, evacuation plans have been developed for eight prototype areas of the nation: Utica/Rome, N.Y.; Dover, Del.; Macon, Ga.; Duluth, Minn.; Oklahoma City; Colorado Springs; Tucson, Ariz.; and Great Falls, Mont.

The Pentagon got started on the evacuation plan in 1974 after military experts learned of the Soviet Union's plans for mass relocations of population centers.

"Now, with Russia having an evacuation policy, should a nuclear exchange take place with the Russians evacuating their cities and the U.S. not evacuating any of their popu-



HIGH RISK AREAS in the event of nuclear attack, according to experts, are marked in black. There are 400 such areas on this map of the United States developed by the Defense Civil Preparedness Agency, inside the Pentagon.

lation, the U.S. would be at an extreme disadvantage in terms of population losses," Wengrovitz said.

One military expert, Maj. Gen. George J. Keegan, a for-

mer bomber pilot who rose to become the Air Force's intelligence boss from March 1972 to January 1977, said that if nuclear war erupted today 30 to 40 Americans would be kill-

ed for every Russian killed. Wengrovitz said, if funds are increased as expected, the mass evacuation plan could be completed for the entire nation by 1983 instead of 1989.

State Official Labels Nuclear Evacuation Plan Hoax on Public

By CARLINGRAM, Times Staff Writer

SACRAMENTO—A top Brown Administration health official declared Wednesday that her department will not participate in fashioning a federal civil defense plan that envisions moving 19 million California city dwellers to the country in case of a nuclear war.

Director Beverlee A. Myers of the Department of Health Services said it would be "unethical" to participate in a plan that "creates the . . . illusion that the public health community can offer any assurance of health protection to the cities of California in the event of a malevolent detonation of nuclear warheads.

"To plan for a hoax is a disservice to the people of California," Myers told a stunned legislative hearing called to hear testimony on nuclear war preparedness. The hearing was sponsored by the Senate and Assembly health committees.

Development of Plan

Myers' declaration followed testimony by officials of the state Office of Emergency Services, which is working with the federal government on development of a "crisis relocation" plan.

And, the statement left the office of Gov. Edmund G. Brown Jr. surprised and tinged with embarrassment.

"This is the first time that it has been brought to the governor's office," said press secretary Richard Steffan.

He said B.T. Collins, Brown's chief of staff, planned to summon Myers and officials of the Office of Emergency Services for a conference. He quoted Collins as saying, "If I have any say in the matter, there will be plans for nuclear crisis."

Myers told reporters that Brown's office had not cleared her statement in advance, although it was approved by her immediate superior, newly appointed Health and Welfare Secretary Douglas X. Patino.

Sings of 'Bickering'

Steffan said Collins believed Myers' position "has merit, but he doesn't like state departments bickering or arguing with each other in public."

Brown, a candidate for the U.S. Senate, supports a proposed initiative that would require him to send President Reagan a letter urging a freeze on nuclear arms.

Loren Fields of the Office of Emergency Services said Myers' department currently is not actively involved in "crisis relocation" planning, so her declaration had little short-term impact.

If her policy was embraced by Brown for other state departments, it would take the state out of the nuclear preparedness planning business for at least the remainder of Brown's term as governor, he said.

Later in the day, Myers' department sponsored what was advertised as a public health "prevent nuclear war" rally in the atrium of the new Gregory Bateson state office building.

Steffan said the governor's office was assured by Myers that the rally "was not political. We could have stopped it. We didn't."

Basically, the federal government is seeking to develop a plan that would enable people in potential "high risk" target areas, such as Los Angeles and San Francisco, and at military bases, to leave their homes and relocate in supposedly safer rural areas.

Federal Emergency Management Agency representatives from San Francisco estimate that Americans would have anywhere from three to eight days of advance notice of a nuclear attack from the Soviet Union. They said an estimated 19 million city dwellers could be relocated in the country in an orderly fashion in a round-the-clock effort.

But members of the legislative committees were incredulous. Several asserted that no one would survive a nuclear exchange.

"I can't believe it," Sen. John Garamendi (D-Walnut Grove), a candidate for governor, told the federal witnesses. "Have you gone insane? Somehow there is an insanity in the notion (of relocating city dwellers)."

"I'd like to get my butt out of town" in case of a nuclear attack, responded Ronald H. Sandwina, chief of the plans and preparedness division of the federal agency's San Francisco office.

"You and 19 million people are going to get out of town?" Garamendi wondered aloud.

At another point, Sen. Alan Sieroty (D-Los Angeles) told the federal representatives that "what you are saying strikes me as an effort to brainwash the American public into believing that a nuclear attack, a nuclear war is somehow survivable, acceptable and that it can be part of our living experience.

"I believe that is not only obscene, but I believe it creates a false sense of security for the American people and leads us away from our principal task . . . to develop approaches of preventing this type of thing from happening.

Interruptions and questions by committee members were so frequent that Sandwina and Jack Greene, a federal consultant on civil defense, were unable to present their full testimony.

Midway in the hearing, Alex Cunningham, director of the state Office of Emergency Services, quoted sections of both state and federal laws requiring civil defense preparedness and told the lawmakers that the federal "crisis relocation" proposal "has the potential for saving hundreds of thousands of lives."

He said it was "better to have a plan and not need it than to not have a plan and need it."

However, Dr. Jack Geiger, a founder of the anti-nuclear Physicians for Social Responsibility, assailed the relocation proposal as based on "wildly optimistic assumptions."

He said it overlooked such issues as the ability of services in rural areas to accommodate millions and millions of fleeing city dwellers. He said water, food, energy, transportation, medical aid and communications systems likely would be blasted away.

GARY NORTH'S

REMNANT REVIEW

Matt. 6:33-34

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(You are about to read the most startling issue of Remnant Review ever published. In five years, I think it will be regarded as the most important issue ever published. I did not write it. The man who wrote it agreed to take the assignment only on the condition that he remain anonymous. This is necessary in order to protect his career, since he is presently employed in a most sensitive position in Washington, and he does not need the added publicity. I am putting my reputation on the line by publishing this report, and I assure you that I would not risk my reputation if I were not convinced that the man is reliable. I have known him for many years. He is a scholar. He holds the Ph.D in political science, and he has published in prestigious journals. He is regarded as one of the most informed conservatives in the field of European politics. He now devotes his skills full time to studying Soviet military strategy. He is no crackpot. If his analysis proves correct, then most of the so-called experts in Soviet studies will be regarded as the true crackpots. The shocking fact is that all of the information presented in this report is based on publicly available documents. My first reaction, three months ago, was simple: "Why haven't I seen any of this in print in any of the conservative journals, let alone the regular news media?" I can almost guarantee you that this will be your response, too. But having seen the light -- or more properly, the flash -- I have decided to take action. I will be moving out of Durham before the end of the year. Durham is too vulnerable, not to Soviet missiles, but to the emergency regulations that the Federal government plans to impose immediately after a nuclear attack. I outline these in chapters 5 and 6 of my book, How You Can Profit from the Coming Price Controls. Another step I am taking is to publish this without the protection of copyright. Please feel free to reproduce it in any form. I will follow up on this report in the next issue of Remnant Review. I will offer a comprehensive strategy of personal defense against the events that this report warns about. I assure you that the next issue will be fully copyrighted! — Gary North)

THE DANGER IS DEFEAT, NOT DESTRUCTION

Anonymous

If the Soviet Union were to inflict a nuclear first strike upon the United States, well over 90% of the American people would read about the attack in their newspapers, or hear about it on radio or TV. Only a small percentage of Americans would see, hear, or feel any effects of the attack, and considerably less than one percent of us would become casualties. This is not wishful thinking, but rather a

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sober, detailed appraisal of the effects of the Soviet nuclear weapons which exist or are being built, if they were used according to the military strategy which the Soviet Union has been teaching to its forces since the beginning of the nuclear era. Soviet weapons are made especially to destroy American weapons--to defeat America while killing very few Americans and leaving our economy intact. Simply put, the Soviet Union is not out to destroy us, but to defeat us. We can take no comfort in this, because the Soviets have made tremendous strides toward being able to achieve this goal, and because, after being defeated by the Soviets, most Americans might wish that Armageddon had come instead.

All of this, of course, is contrary to the picture of nuclear war which has been propagated by most American politicians, academics, and publicists for a generation. According to their view, nuclear war would be a spasmodic exchange. Both the U.S. and the USSR would shoot everything they had at each others' centers of population, literally bombing each other back into the Stone Age, or worse. Neither country could or would take any care, before or during the conflict, about limiting damage to itself. Each would strive only to annihilate the other even as it was being annihilated itself. As song writer Tom Lehrer once put it, "We will all go together when we go." This very popular and reassuring view is shared by people as different in their political preferences as George McGovern and Barry Goldwater.

The popular American picture of nuclear war has always been utter nonsense. Nonetheless, the technological advances of recent years have made it even more criminally stupid. First, the military capacity of the two sides has never been equal. During the 1950's, had we gone to war with the Soviets, nearly all our bombers would have gotten through to Soviet targets, while very few Soviet ones would have made it to our borders. During the early 1960's, our missiles, inaccurate as they were, could have knocked out the Soviets' few missiles, which were then located on soft pads well known to our satellites. During the remainder of the 1960's, when both we and the Soviets placed our missiles in hardened silos or submarines, there was some reason to believe that we and the Soviets were equally targeting each others' population. But it was not so. We targeted industries, while the Soviets targeted our air and naval bases. But we had a bigger force. Had we gone to war in the late 1960's, we would have lost most of our military power, while the Soviet Union would have lost a fourth of its population and less than half of its industry. Since the early 1970's, it has been beyond dispute that the Soviet Union has a superior ICBM force built for one primary mission: destroying American missiles in their silos. (Roger D. Speed, Strategic Deterrence in the 1980's [Stanford: Hoover Institution, 1979].) By so doing the Soviet Union can diminish the United States' ability to strike back with its population-killing weapons. So, to sum up, at different times either side has had finite military ability to defeat the other and protect itself. Second, and most important, the American image of nuclear war as Armageddon is false because while American planners, beginning with Robert McNamara, have disapproved of destroying enemy weapons, and have not attempted to design plans which might allow the U.S. to survive a nuclear war, the men in charge of the Soviet military establishment have never wavered from the view that Wars have winners and losers and that the job of the Soviet military is to protect the Soviet Union by smashing the enemy's weapons.

Thus while American policies have aimed at producing dead Russians while leaving intact Soviet strategic weapons, the Soviet Union has never targeted our population. (Fritz Earmarth, "Contrasts in American and Soviet Strategic Thought," International Security [Spring, 1978].) As a result of our misperception, we have been worrying needlessly about being burned to a crisp, or about dying of radiation sickness (a la the movie "On the Beach"). We have worried ourselves so irrationally

about a far-fetched danger that we have rendered ourselves incapable of doing anything about the present danger--the Soviet Union's growing ability to defeat us and to do to us what it has done to other peoples it has conquered.

The Soviet Force

At the time of the Cuban missile crisis in 1962, the Soviets had less than ten SS-6 intercontinental missiles capable of striking the U.S. These lumbering giants were aimed at U.S. Air Force bases. They were dangerous above all to the people who had to pump fuel into them. Today, Soviet missiles capable of reaching the U.S. number at least 2400 modern types. (All figures for strategic deployments are taken from the book edited by Paul Nitze, The Fateful Ends and Shades of SALT [New York: Crane Russak & Co., 1979].) We must say "at least" because we really have no idea just how many missiles the Soviet Union has built and stored, ready for use. The Soviets have always refused to let us examine their facilities for producing missiles, while the United States' vaunted intelligence satellites simply cannot look through roofs, or darkness, or clouds. Nor can they overhear anything that is not broadcast in the clear. Nevertheless, at the beginning of the SALT negotiations ten years ago, the U.S. agreed to believe officially that the Soviets had only as many missiles as they had silos in the ground and in launcher tubes on submarines. Thus the SALT treaties have not limited the production of missiles, but only the deployment of things which American intelligence systems can count--silos and submarines. At any rate, regardless of the missiles they might have hidden, 2400 is the number of missiles and bombers the Soviets have openly deployed.

At least 326 of these missiles are SS-18's. These carry ten independently targeted warheads, each of which has a yield of about one megaton--one million tons of TNT. (This is a highly tentative estimate, because the U.S. really does not understand how Soviets build nuclear weapons.) These 3000+ Soviet warheads carry more explosive power than the entire American missile force put together. These warheads by themselves are also sufficient to cover every American "hard target" twice over. They would have to, because prudent planners assign two warheads to critically important targets--such as missile silos and "command and control" points--which have been armored to resist nuclear explosions. The United States has less than 1500 such sites overall, each able to resist pressures of 1000 lbs. per square inch. (Figures for hardness of American and Soviet Silos are reported in Counterforce Issues, published by the Congressional Budget Office, 1978.) The SS-18's warheads are accurate enough to place their megaton within about one-tenth of a mile of the target--close enough to be quite sure of killing it. (Performance data for Soviet and American missiles are from Jane's Weapon Systems, 1978-79.) The SS-18's alone can go a long way toward disarming the United States.

The Soviet Union either has deployed or is now deploying 500 SS-17's and SS-19's. These missiles carry four and six warheads respectively. Though not quite so accurate as the 18's, these twenty-five hundred megaton size warheads could kill "hard targets." But they could also be used to destroy "soft" military targets such as air bases, or be kept in reserve to threaten cities. In addition, there are almost 600 SS-11's, each carrying one megaton. The Soviet Union has also deployed some 900 missiles aboard submarines. Almost half of these are longer range than anything aboard American ones, and about two hundred of these carry multiple warheads. By the early 1980's, the latter's number will rise to about 500. The Soviet submarine force should be expected to have over two thousand warheads, each of which would yield between 500 kilotons and one megaton. Such warheads, however, are only accurate to within a half mile. Therefore they can be used to attack air bases or to threaten cities.

The Soviet heavy bomber force is small--less than 150 operational Bears and Bisons. Yet it can easily be augmented by 200 Backfire medium to long-range bombers, or even by cargo aircraft. The reason is simple: Soviet aircraft seeking to drop bombs on the U.S. need not use speed, low altitude, or deception to counteract American air defenses, because none exist. They have been dismantled over the past two decades. Even civilian cargo planes could be used to bomb the U.S.!

The Soviet Union, on the other hand, has deployed 6500 air-defense radars, 10,000 interceptor missiles, and 2600 interceptor aircraft. It practices air-defense constantly. It has also built four huge phased-array radars which can be the core of a nationwide defense against ballistic missiles. The other components of such a defense already exist. The Soviet Union has but to mass produce them--which, for all we know, it may be doing--in order to have a respectable defense. To back up its active defenses, the Soviet Union has an expanding civil defense, featuring hard shelters for about one-fourth of the urban population, protection for vital industries, and sheltered food supplies.

American Forces

The backbone of the American force is the Polaris-Poseidon fleet. These 41 submarines carry 16 missiles each--a total of 656 missiles, which can carry some 5000 - 5400 nuclear warheads. About half of this force--some 2500 warheads--is at sea at any given time. Most of it could survive any Soviet attack. But the Polaris-Poseidon warheads are curious weapons. They yield only 40 kilotons each, and are accurate to about four-tenths of a mile. Thus they are optimal for attacking soft targets, such as residential areas. They are less useful for military targets, and totally useless against "hard" targets. This is by design. As Poseidon was being perfected, Secretary of Defense Robert McNamara rejected plans to fit it with three big, accurate warheads, on the grounds that the ability to strike "hard targets" was against America's strategic policy.

That policy, simply put, is to deter war by threatening to kill Soviet civilians in a second strike. According to that policy, any weapon which can destroy missile silos makes war more likely because it gives its owners several militarily rational options--including a first strike. The objective of nuclear strategy, according to people such as Robert McNamara and the Carter Administration, is to make war wholly irrational for all concerned. The Poseidon, with its many, small, inaccurate warheads, is certainly an irrational weapon.

The 1000 Minuteman II's and III's are spread in silos at the following Air Force bases: Grand Forks, North Dakota; Malmstrom, Montana; Whiteman, Missouri; Warren, Wyoming; Minot, North Dakota; and Ellsworth, South Dakota. Fifty-four Titan II's are located at Davis-Monthan AFB, Arizona, and Little Rock AFB, Arkansas. Even the best of these, the 550 Minuteman III's, have but slight chances against Soviet silos and military communications centers "hardened" to some 2500 pounds per square inch. These missiles, then, can best be used against industrial targets and relatively soft military ones. But, since the Soviets have weapons capable of destroying them on the ground, these missiles may do nothing more in wartime than "soak up" Soviet warheads.

The American bomber force is old. Its mainstay, the B-52, was designed during the Truman Administration. President Carter cancelled production of its successor, the B-1. The B-52's in service now are older than the pilots who fly them. Some 300 B-52's are flyable. Each carries about four bombs. In the future, they may carry cruise missiles. One-third of the B-52's are on ground alert at some 25 bases.

If the Soviet Union attacked these bases with submarine-launched missiles, and also barraged the bombers' escape corridors, not many would survive to try their luck against Soviet air defenses.

American defenses are practically non-existent. The old Distant Early Warning (DEW) line of arctic radars is obsolete. Anyone with a terrain map of Northern Canada can figure out the holes in it. Once a Soviet pilot gets through that, he can be confident of flying to his destination undetected. Even if he were detected, little could be done. The U.S. has only 300 old F-106 interceptors, and no surface-to-air missiles deployed to defend the country. The U.S. has developed excellent technology by which to defend against ballistic missiles, but has renounced its use. According to American strategic doctrine, safety lies in mutual vulnerability. So far do American officials adhere to this doctrine, that the U.S. is wholly without civil defense. There are practically no blast shelters in the U.S., and certainly no strategic storage of food.

How Strategic Forces May be Used

It is clear that the biggest difference between the Soviet and the American force--bigger than the differences in hardware--concerns the purposes for which the weapons may be used. Soviet military writings refer to deterrence quite differently from American ones. Whereas American Defense intellectuals see the weapons as scarecrows by which to ward off attack on American cities, the Soviets see them as tools by which to achieve their ends. Thus, for them, deterrence is an offensive concept: that is, to keep the Americans from thwarting Soviet purposes. For them, deterrence is achieved by the ability to win the war. (J. Douglas and A. Hoeber, Soviet Strategy for Nuclear War [Stanford: Hoover Institution, 1979].)

The Soviets expect that the U.S. would be deterred from doing anything serious to stop the ultimate triumph of the Marxist "Socialist Commonwealth" by the following prospect. If pressed too far, the Soviet Union could launch its force of SS-18's and therewith destroy nearly all American land-based missiles and bombers. At the same time, Soviet ships or aircraft would mine the harbors where half of the American Polaris-Poseidon submarines lay. This would put the submarines out of action, and keep them where they could be destroyed at will by ICBMs, quite without killing Americans. Reduced to some 2500 40 Kiloton warheads, what could the U.S. do? The USSR would still have about 7000 warheads--all invulnerable. If the U.S. chose to strike back, it could not thereby reduce the threat to itself. At this point, the U.S. would have suffered militarily, but in no other way. The 3000 Soviet megatons which would already have exploded over places such as Davis-Monthan Air Force Base, Arizona and Warren Air Force Base, Wyoming, would have killed less than a quarter-million Americans--five years' traffic fatalities. Nearly all of the casualties would have been military personnel or their dependents. But if, at this point, an American President ordered a strike at Soviet cities, he would risk a Soviet attack on America's population. At this point, negotiated surrender would make far more sense. Moreover, even if the President of the U.S., or several submarine crews acting on their own, were to launch Polaris-Poseidon on the Soviet Union, they could do relatively little damage. The Soviet civil defense system would have been on alert. The key industries would have shut down, "hardened" their machinery, and sheltered their workers. The rest of the urban population, the non-essentials, would have been placed in lesser shelters or sent to outlying areas. Finally, the incoming American warheads would probably be met by some kind of antiballistic missile system. (It is doubtful the Soviets would initiate such an attack until their plans for missile defense were well along.) That fraction of the American warheads which arrived--probably far less than 100--would knock down a lot of

buildings. (T. K. Jones and Scott Thompson, "Central War and Civil Defense," Orbis [Fall, 1978].) The future would belong to the Soviet Union.

This scenario could occur any time after 1981, when the Soviets will have completed deployment of their fourth-generation ICBM strike force. But because persons knowledgeable in military affairs know it could, the Soviet Union may not need to carry out an actual strike. In recent years American leaders have said loudly and often that military power no longer matters in world affairs. (Gen. Dan Graham, Shall America Be Defended? [New Rochelle, New York: Arlington House, 1979].) They have been whistling in the dark. More people's fates have been affected by military victories and defeats since 1960 than during World War II. During these years India has beaten Pakistan twice, Israel has beaten Arab coalitions twice, North Viet Nam, with Soviet help, has beaten the U.S., Soviet clients have triumphed in Cuba, Nicaragua, Algeria, Angola, Mozambique, Guinea, Ethiopia, Afghanistan, Iran, Laos, and Cambodia. They narrowly failed in Zaire and Indonesia. Soviet clients or sympathizers have also waged inconclusive wars or have attempted coups d'etat in nearly every country of Africa, Asia, and Latin America. The Soviet Union has repeatedly vowed support for such enterprises, and has made clear that their success depends on the growth of Soviet power. Certainly the fear of greater Soviet involvement kept the United States from winning in Viet Nam. That fear has helped to convince American policymakers not to help America's beleaguered friends in places like Iran. In 1973, the threat of Soviet intervention into the Middle East led the U.S. to stop Israel from consummating its victory against Soviet-supplied Arab armies which had attacked her on her highest holiday. The same prospect frightened the U.S. into submitting to virtual expropriation of its oil production equipment in the Middle East, and the quadrupling of the price of oil.

As the Soviet Union's arsenal becomes more fearsome, it will become more reasonable for the Soviet Union's friends around the world to be bolder, and it will be more reasonable for the United States and its friends to do more and to suffer more to avoid antagonizing the Soviets.

The Retreat of Our Allies

The incentives for friendship with the U.S. can only drop. Consider Europe, which is tied to us by bonds of kinship, culture, and interest. What would happen if, in 1982, the Soviet Union (or East Germany) quickly seized just a couple of square miles of farmland on the German border on some transparent pretext? One thing is certain not to happen. The U.S. would surely not launch nuclear strikes against Soviet cities. That would serve no rational purpose whatever. Would NATO then attack to take back those few square miles? Given that the Soviet Union can muster on the central front 21,000 tanks to NATO's 7000, over 4000 aircraft to NATO's approximately 2000, as well as almost two soldiers for each of NATO's, a NATO attack would make no sense. Of course the Soviets would call for negotiations. No doubt NATO would attend.

What would Europe have to gain by taking an intransigent attitude toward the Soviet Union? Such an attitude would get Europe nothing but military trouble, which the U.S. could not alleviate. The U.S. could not help to defend Europe because the U.S. could not protect itself. American ground and air forces in Europe could not stop a Soviet advance. But if American strategic weapons were used against Soviet forces in Europe, the Soviet Union could well afford to unleash a disarming strike upon the United States. Knowledge of this--not the small amount of force used to take the small border area--would quickly detach Europe from the United States. This

end could be accomplished quickly with even less direct expenditure of force. The Soviets could stage a coup d'etat or other military action against Saudi Arabia. The PLO would gladly lend itself to such a venture. Would America risk World War III (which American planners have made sure the U.S. will lose) for the sake of the Saudi Royal Family? But with Saudi Arabia--the world's largest exporter of oil--in anti-imperialists' hands, the Soviet Union would be in a position to approach Europe with the offer to facilitate their oil supplies at stable prices--if only Europe would slip out of its relationship with the United States. Given the balance of forces between the U.S. and USSR in the early to mid 1980's, the Europeans would have to be heroes to refuse the Soviets' offer.

The decisive defeat of the United States in the world--a defeat which would leave no doubt in anyone's mind who ruled the world--could be accomplished even more easily, given the "cover" of decisive nuclear superiority. On Oct. 1, 1979, the pro-Soviet government of Panama becomes legally sovereign over the whole Panama Canal Zone. Anytime thereafter it can abrogate the treaties which preserve a residual role for the U.S. Then it can ask the Soviet Union to send troops to help protect the Canal from the U.S. Of course the U.S. would enjoy local military superiority. But, given the Soviets' ability to carry out a disarming nuclear strike on the U.S., and the latter's inability to disarm the Soviet Union, would the U.S. actually risk killing Russian soldiers? It would be more reasonable to absorb the loss of the Canal, and of the last shreds of American influence in the world.

Such losses could not help but jar the United States into realizing that strategic inferiority to the Soviet Union can only lead to enslavement. But surely, by the mid-1980's, this realization would come too late. Surely the U.S. would begin to build the weapons it should have built during the 1960's and 1980's. But how would the U.S. respond to a Soviet declaration that the continuation of such an American build-up would be regarded as an act of war, for which the U.S. would bear full responsibility? If the U.S. chose to disregard the warning, the Soviets could look forward to losing their supremacy in a few years. Why should they not use it while they had it?

Subjugation of the United States would open new and more violent chapters in the history of the world. We can but speculate beyond the first one, the outlines of which are clear. The Soviet Union and its victorious coalition will still be hungry. Moreover, they are possessed of an ideology which tells them that the wealth of the formerly free world consists of goods somehow stolen from them. The rape of the United States would be swift. Russians have never been very farsighted in the husbanding of golden geese. The history of postwar Eastern Europe indicates the Soviets would set unrealistic reparations quotas and try to squeeze blood from stones. They would attempt to rid the economy of "parasitic" occupations--and to rid the earth of "useless mouths." All would be made even harsher by the inevitable campaigns against religion, the family, and other ancestral enemies of Communism. Those given power would be the most reliable. Reliability would be proved by harshness. Unfortunately, this is not speculation, but dreary experience. The history of Soviet rule consists of little else.

The Possibilities for Defense

The United States is not doomed to defeat. The Soviets have not built their nuclear forces by peculiar genius. The U.S. possesses technology to build weapons of the same kind that are even better. More important, the U.S. possesses the technology to build weapons of altogether different kinds, weapons which are likely to safeguard both our freedoms and our lives. Of course to build these things at

all we would have to change the way our officials have been thinking about war and weapons. Much would happen, however, if the American people transmitted one simple message to their officials: "We want to survive any war with our freedoms intact."

With such a mandate, the next President of the United States would begin by ordering the U.S. Air Force to remove the Minuteman II's and III's from their silos, to place them inside their factory canisters, and to keep them on the move aboard trucks, whence they could be launched. (See Aviation Week and Space Technology [19 June, 1979].) This would remove the Soviet Union's ability to target and destroy these missiles. With that gone, the Soviet Union would lose a large part of the military incentive for a first strike.

Second, the President would order the abolition of the system by which the U.S. has acquired weapons since 1963. Before 1963 it took about six years to translate an idea into a weapons system. Now it takes about fifteen years. This system has reduced the U.S. armed forces to one of the worst-equipped forces in the world. If we proceed as we have been, the MX missile, our first counterforce weapon, won't be fully deployed until 1990. That will be years after the Soviets will have achieved a counterforce capability against the U.S. 1990 is too late. With the WWII purchase system in effect, the U.S. could quickly build a mobile heavy missile, capable of taking out enemy silos. If we went about it on a crash basis, we could have the missile moving on American roads by 1983. Even more quickly, the U.S. could change the warheads on the Poseidon--reducing their number, and making them accurate weapon killers instead of terror bombs. A mere 1200 big, accurate warheads aboard our submarines would do more to defend us than the 5000+ little, inaccurate ones we now have. Once these weapons were in hand, our targeting strategy could stop aiming at producing dead Russians, and could begin to concern itself with protecting Americans. With the weapons we have in 1979, even a massive change in American targeting doctrine could not hope to reduce the threat to the U.S. We simply need new weapons.

More important still, the U.S. could take advantage of new advances in the technology of anti-missile missiles and radars. These are especially efficient for defending mobile missiles deceptively based. The anti-missile missile need only shoot down the warheads which are actually heading for the right targets. A National network of interceptor missiles for the defense of our population is expensive, but possible. Just as possible but less expensive is a defense against ballistic missiles based on laser stations in space. (See Sen. Malcolm Wallop, "The Emerging Possibilities for Defense," Strategic Review [Fall, 1979].) This is not a Buck Rogers system. The technology for it is well known in the U.S. Lasers are not objects of speculation, as are particle beams. Megawatt-size lasers are weapons of today. With every passing year, technology is making it even more possible for defensive forces to seize the advantage over offensive ones.

Conclusion

By 1982 at the latest, the U.S. will enter the most dangerous period in its history. In order to avoid the risk of disastrous defeat, the U.S. must begin to take action now, and surely cannot afford to put off certain crash programs beyond the first days of a new Administration. These crash programs should: take our Minutemen out of their holes and fit them with counterforce warheads, fit Polaris-Poseidon with counterforce warheads, build a truly mobile MX, unhampered by Rube-Goldberg basing schemes, the B-1 bomber, anti-missile missiles, and space-based lasers. The country may not be able to complete these programs in time. But it can try.

All of this will be easier on bomber crews in the future, as air-launched cruise missiles, which can be dropped 1,500 miles from their targets at the edge of Soviet airspace and then continue on their own, are now being fitted on some B-52s. In the meantime, every SAC bomber is equipped, for the benefit of those who do not make it out of Russia, with down sleeping bags, a saw, rations, a life raft, and .38-calibre pistols. Every parachute pack contains a water carrier and three fishhooks. And every crewman is given, and carries in his wallet, a little card (SAC Form 673) headed "Radiation Data." The card lists thirty-one tips for surviving if forced down in territory that may be radioactive. "Make [a] shelter large enough to rest," it says. "Lie down, keep warm and rest/sleep as much as possible. . . . Potatoes, turnips, carrots and other plants whose edible portions were growing underground during the fallout period are edible. . . . Avoid traveling within ten miles of any known ground zero. . . . Be alert for enemy warning signs marking any contaminated areas. . . . STAY COOL, USE YOUR HEAD, YOU WILL SURVIVE."

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THE FUTILITY OF MASS EVACUATION

By Kurt Saxon

On Sept. 10, I watched 60 MINUTES and recorded the segment on civilian evacuation in the event of the threat of a nuclear war. I turned on the recorder just as I realized the subject and so lost the name of the lady narrator and part of the first or second sentence. Otherwise, it's all here except for a few lines garbled by background noises in the film.

The piece was done in a sort of light-hearted manner, as it should have been. As I've written all along, mass evacuation is a stupid idea in the event of a nuclear war. The overall damage would be so great that the majority of the population would perish even after the war was counted as being over by all the contending parties.

Stories of Russian preparedness are equally silly, even though it is claimed they can save up to 80% of their population in underground bunkers equipped with machinery for restoring their system. Since they spend up to 50% of their national income for weaponry, regardless of their ratio of surviving population, they could not survive any longer than the average American evacuee. Their blighted croplands, their known shortage of consumer commodities and the resultant Chinese invasion, would seal their doom as a nation, despite initial preparedness against atomic retaliation by the U.S.

Anyway, here is what I recorded: "...save 20%, 50%, 90%—how many do we want to survive? Clifford McLain, Deputy Director of the Defense Civil Preparedness Agency: 'The only system that seems to be workable under an expenditure of a few hundred million dollars per year is a crisis location system.'

"The red areas on this crisis relocation map represent places the Defense Department thinks the enemy would aim for. The evacuation corridor in states like Connecticut figure as prime targets, high risk areas in the event of nuclear attack. Heavily populated, with some defense industries. Further inland in western Connecticut, certain other towns, mainly rural or just plain small, are regarded as safe from blast and fallout. They have been designated 'host areas'. Crisis relocation simply means, if attack seemed imminent and there is at least three days to spare, the President orders the people from the high risk cities to move to the host areas of the country.

"The Federal Government is paying for crisis relocation. It's now allocating five million dollars a year to pay for 150 planners and small staffs to figure out how to move 137 million people. Here at Defense Civil Preparedness headquarters in Hartford, Connecticut, calculators in hand, they're trying, at least on paper, to evacuate nearly three million people. There are only two planners and a secretary on the budget. For they've decided that some of those three million will descend on Sherman, Connecticut, a designated host town.

"Neither of the planners have had the time or the budget to visit there, its population just under two thousand; double that when the summer people arrive. Though little Sherman is supposed to receive 10,000 people, they'll be evacuated from Bridgeport, a risk area about an hour's drive from there. Instructions are to house these people in public facilities. The firehouse might hold a hundred, the school maybe 200. And a few hundred more in a couple of churches. But Sherman couldn't find room for 10,000 people, even if they pushed all the cows and horses out of their barns and took them over.

"Besides, how would they get there? Major highways could become virtual parking lots as millions fled the bomb. And what would happen when they turned off on the two-lane country roads?"

"Six miles up the road from Sherman is the town of New Millford, another designated host area that the planners haven't actually surveyed. Compared to Sherman, New Millford is a big city. It has 18,000 people. And Nuclear Civil Protection planners have big plans for New Millford; 105,000 evacuees, to be exact.

"Where will a crowd of that size go in New Millford? Bernard Shelton, Civil Defense Area Coordinator, hasn't the foggiest idea." 'I don't know where we'd put them. Certainly, it would stretch one's imagination tremendously'.

"They're supposed to put them up in public facilities".

"That's what they say; public facilities, restaurants, hospitals. I don't know. What public facilities we have are minimal to take care of that number of people. They'd be sleeping on the Green, they'd be sleeping anywhere they could. Then just imagine 105,000 people coming in to one beautiful little town like New Millford. I think it's a fairy tale'.

"What's the status of the shelters you once had in this town?"

'Really pathetic'.

"We went to take a look at one of the handfull of shelters that still exist. It's in the basement of the telephone company. And, like the man said, 'really pathetic'".

"How many people would this building hold?"

'It was originally set up for about 30-35'.

"Now, it looks as though there are some biscuits or something; could we take a look?"

"Yes, we might take a look. There should be candy and margarine. This is to sustain you and with the crackers for carbohydrates."

"I see, so these should still be okay".

"Right. (A lot was lost because of background noises in the basement. But the survival food stocks seemed inadequate to feed the number of people for more than a few skimpy meals).

"I'd hate to be stuck down here right now".

Shelton went on to describe the inadequacies of the shelter and its stock and made other general comments on the town's inability to handle the influx of refugees.

"And that's a little short, with 105,000 evacuees scheduled to arrive. Well, who is in charge of getting all this stuff together? Hal Curtis is the town's volunteer Civil Defense director".

"When you hear about a possible 105,000 people descending on you, what do you think?"

'I shudder'.

"Meanwhile, while local people in supposedly-safe areas shudder, in Washington, Dr. Bill Chivman (I think that was the name) the Deputy Assistant Director of plans under Defense Civil Preparedness Agency, concedes he isn't really sure where the bombs might fall".

"There is no prediction that any one of these areas would be or would not be hit. It's merely a set of prudent planning assumptions. The assumption is that they might be hit'.

"What if you evacuated all these people and they're all crowded together and they had to wait three-four days before the problem was resolved? What would they be doing all this time?"

"Typically, there is a great outpouring of cooperative behavior. People help one another. Altruism is very much to the fore. And in addition, it would be necessary to improvise additional fallout protection and there is a little slogan we've heard that fallout protection is as cheap as dirt. If you can get a half a foot or a foot of earth between yourself and the little particles of fallout that give off the harmful gamma rays, you get excellent protection'. (There was then a Civil Defense film dramatizing piling earth on the sides and tops of buildings).

"So the problem would be one of moving about a cubic yard of earth for each evacuee for who you wish to develop fallout protection; perhaps 70 or 100 buckets full. It would be a question of piling this earth alongside a school or some other structure and ramps six or eight inches or so on the roof".

"You would have less than 10,000 people (Sherman, Connecticut), in fact, refugees in a town and they'd all be out digging? The town would be destroyed".

"Destroyed?"

"Well, I mean you'd be digging up the whole town".

"Oh, yes, there would be pits. There would be pits around town from which earth would be removed".

"Burying public buildings is one recommendation the planners seem to agree on, provided the weather is agreeable and the evacuees pack their shovels, and that there's enough time. But other parts of the planning are going more slowly".

(Unnamed speaker): "Given our current level of effort, it will probably take us on the order of 12 to 13 years to complete the planning".

"Even the paid professionals, regional Civil Defense planners, have their doubts about crisis relocation".

(Another unnamed speaker): "You know, it's getting embarrassing? Even when you identify the shelter, people are still asking, where are we going to eat, where are we going to go to the bathroom? And what happens if they have a medical problem? And the questions I get are from the State Police, the local police, the fire department; I'm not going to be around when I hear that a war is about to begin. I'm taking my family and running. Where are we going to put 'em?"

"We are contacting local officials without the benefit of being able to stay in your building. I don't care what kind of building it is. They say, well, I don't know. Who's going to pay for it? That's the second question. And these are tough questions".

"Some people feel that the plan is not only unworkable, but it is ridiculous. What do you say to that?"

Chivman: "I've heard these views. But I would say to them, if I were personally confronted with it is, well, no one has to go. If you wish to remain in the city, be your own guest".

Mike Wallace: "But that doesn't seem to be the problem to people who remain in the city. It's the people who'll be caught in those giant traffic jams, the people who'll be inundating little towns like Sherman, Connecticut. What to do about them? What to do? Tune in again".

American Civil Defense has always been a farce. Politicians have always cut the budget in favor of various welfare programs. Nor have they wanted to panic the population into becoming self-sufficient. They have deliberately led the losers of our society into the large cities where welfare payments are higher and where unskilled work is more available.

This is a good thing, but no credit to them. They encouraged such measures because the proletariat, congregated in large cities, assures them of greater blocks of votes which insures them a place at the public trough.

Most of our nation's better types avoid the cities and are to be counted as a large reservoir of survivors, to rebuild civilization; hopefully a better one.

Nuclear war, as horrible as it will be, if it comes, will serve to destroy most of our misfits and degenerates. For this reason, every rational American should welcome it. Happily, the report shows that the proposed evacuation program is bogged down in typical bureaucratic bungling and stupidity.

However, Survivalists being just outside the prospective target areas should protest, in whatever ways they are capable, any such programs. Indeed, there are many fine people living in cities at this time. But they are leaving in droves, only to be replaced by the illegitimate issue of city broodsows and rural losers flocking to the cities as rural welfare programs decrease.

It has long been my feeling that those who prepare to survive, deserve to survive. Survivalists outside target areas should prepare to block roads, destroy bridges, and otherwise disrupt any attempts by city vermin to relocate in their areas. Within a year, all the city dwellers fit to survive will have left. After that, it should be too late. We must make it too late.

In the event of a real threat of nuclear war the Army would be on alert. They could not be used for any evacuation programs. Only the National Guard would participate. This also would be a farce. National Guard units are made up of semi-soldiers of their respective states. Most National Guard units are stationed in their home towns.

You can well imagine that most Guardsmen would desert and look to the protection of their own kinfolk. Even Guardsmen from the cities will commandeer vehicles to get their own relatives out and so would be of little use in any concerted national effort toward the mass evacuation of strangers.

Even considering mass evacuation a possibility, who would be evacuated? City Survivalists would have seen to their own evacuation plans. That would allow the vermin to be relocated from their rat warrens and deserved doom, to communities where they might survive. This would be a calamity no small community could live through.

The urban no-hopers would prey on their betters in unrestrained vandalism, looting and rape. Decent citizens would be inundated by waves of degenerates who would destroy their betters' chances of survival. Of course, the animals would die eventually, but their relocation would only serve to spread them out in the countryside, attacking and ruining those upon whom our nation's future depends.

All this aside, plans of mass evacuation should be fought strenuously in an attempt to avert war. In the event of a nuclear strike by Russia, there would be no more than an hour's warning, at best. In such a case, mass evacuation would be impossible and so would not present a problem to rural citizens.

But what if the loonies in our government should discover that the Russians were evacuating their cities? Or what if, by other signs, a Russian attack seemed imminent in a few days. To broadcast a nation-wide alarm and begin mass evacuation would only cause the Russians to push their buttons immediately. A false alarm, leading to evacuation, could in itself, set off a nuclear war.

Survival evacuation must be on an individual and group basis. The Russians are paranoid enough, at best, without letting them think the U.S. is implementing mass evacuation in preparation for an attack on the USSR.

So if you think your town might be considered a "host area", attend your next city council and read this editorial to them. (You might edit out some of my stronger statements). Write a letter to your local paper's editor, including the most pertinent points of this editorial. Write your congressman, if you can write and he can read, and say you don't want your town designated a host area.

Nuclear war would mean the total collapse of our civilization. The fewer useless survivors, the better the chance of your own survival. Your towns, your families, your children and all the salvageable elements of your lifestyle would be destroyed by designating your territory as a host area. You must not let it happen. □

Carter revives debate over civil defense

12-1-78

By RICHARD L. WORSNOP
Congressional Quarterly

A whole generation of Americans has come to maturity with no firsthand knowledge of the nation's civil defense program, such as it is. For about a dozen years after passage of the Civil Defense Act of 1950, plans for protecting the civilian population from nuclear attack were widely discussed at the top levels of government. But the sense of urgency faded with the signing of the Nuclear Test Ban Treaty in 1963.

Now President Carter has made civil defense a live issue again. In a presidential directive signed Sept. 29, he called for a "crisis relocation program" for evacuating major urban centers in the event of a nuclear attack. Carter is expected to propose \$140 million for civil defense in his fiscal year 1980 budget, which is now being drafted. This would be nearly 50 percent more than the current annual spending level of \$96.5 million.

Carter's proposed civil defense program differs markedly from President Kennedy's. In the early 1960s, there was deep concern about the effects of radioactive fallout from atmospheric nuclear tests.

Thus, the emphasis in the Kennedy White House was on fallout shelters stocked with food, water, and other necessities. Thousands of such shelters were established, but few people today are aware of them. Two years ago, the Pentagon advised local civil defense authorities that the stockpiled food supplies no longer were usable and should be removed and destroyed.

Carter's civil defense plans bring to mind those of President Eisenhower. A leading argument in favor of the interstate highway system, on which construction began during the Eisenhower administration, was that it would facilitate the evacuation of cities in time of war. Moreover, a series of nationwide civil defense exercises were held in the mid-1950s. The 1954 exercise, lasting three days, featured the evacuation of Washington, D.C., by Eisenhower and 15,000 federal employees.

Evacuation plans were tested also at the local level. In one such exercise, in December 1954, farm families in Weld County, Colo., cared for and fed some 800 Denver residents. In drills elsewhere, evacuees were removed to neigh-

boring towns or taken to other specific reception areas.

Still, civil defense never won broad acceptance among the public. A description of the public's attitude offered by Federal Civil Defense Administrator Val Peterson in 1953 probably is just as valid today:

"First," he said, "it is a very natural human tendency for people to be hesitant and slow about preparing for tomorrow, even in their own private lives. Second, everyone hopes and prays and wishes that there will not be a third world war And, third, some people feel that the destructiveness of atomic bombs will be so great that they become fatalistic . . . and say, 'There isn't any use in doing anything about it.'"

If experience is any guide, Carter also can expect resistance to his program in Congress. During the Eisenhower and Kennedy years, Congress routinely slashed proposed civil defense budgets — from \$600 million to \$43 million in fiscal year 1953, for example. Thus, it is highly questionable whether Congress will agree to a substantial increase in spending for a program that rarely was popular in the past.

FORCED TO FLEE

By Jerry Ahern

HOW TO SURVIVE AN EVACUATION

Your family was suddenly forced to evacuate. Would you now know what to do?

Traffic lights blink blindly on empty streets. Some other city's police cars roll quietly through the neighborhood to help prevent looting. The hollow rising and falling of wind through the hose of a gas mask sets an even pace for what little human activity remains. It is March or July or November in Maine or Tennessee or Texas and a disaster is expected or has happened. Last year was particularly prone to disasters, man-made and natural: refugees from calamity in the U.S. and Canada numbered more than a million.

The figures in 1979 were inflated by spectacular events. Between them, Hurricanes David and Fredric forced the evacuation last summer of over 700,000 people from the Atlantic and Gulf coasts of the U.S. (and killed more than 1,200 people, mostly in the Caribbean). The desperate events at the nuclear power plant at Three Mile Island near Harrisburg, Pa., prompted the evacuation of nearly 140,000 people (with three times that many poised to join them). In early November 250,000 people were evacuated from Mississauga, Ontario, near Toronto, after the derailment of a freight train and the release of 90 tons of deadly chlorine gas. It was the largest evacuation in Canadian history.

These were the big events, but there were others even more serious: spectacular flooding last spring in the Midwest, central Florida, Alabama, Texas, Georgia, Mississippi, and Louisiana killed 14 people and left millions of dollars worth of damage. Freak tornadoes killed 59 people, injured 800, and leveled society in an eight-mile-by-one-mile swath of Wichita Falls, Tex. In fact, weather, fires, spills of toxic chem-

icals, earthquakes, and other acts of God and man cause an average of 40,000 evacuation-necessitating disasters (involving anywhere from a few families to several hundred thousand people) every year, according to the American Red Cross.

How can you prepare to evacuate? Are there ways to increase your chances of survival during a disaster, and to soften the blow of its devastation? The only way to approach the problem is to analyze the types of natural and man-made disasters to which you and your family are most likely to be exposed, then plan specifically to survive them. This involves making rough evacuation plans, inspecting your insurance protection, listing what you must save, instructing your family, and generally making as many decisions as you can before the event.

In case of an evacuation, the primary consideration is to protect life; but except in the most urgent emergency it is senseless to evacuate with nothing but the clothes on your back. One of the most important considerations in individual evacuation planning is to make a list of economic and personal valuables. These valuables should be itemized, along with their locations.

You must evacuate within the hour. You take out your valuables list—it is always kept in the same place. The original, along with receipts, is stored in your safety deposit box. If you are taking your car and have a reasonable amount of room, you may be able to take some valuables along. If you must leave on foot or by boat, you will be able to take less. Decide a priority now. Jewelry, heirlooms, expensive small equipment,

firearms (unloaded) may be worth considering. Copies of insurance policies, deeds, titles, birth certificates, medical records, and so on should definitely be included. Again, originals of these items should be stored in a vault box, but having copies of some documents in your immediate possession may prove useful and save time later.

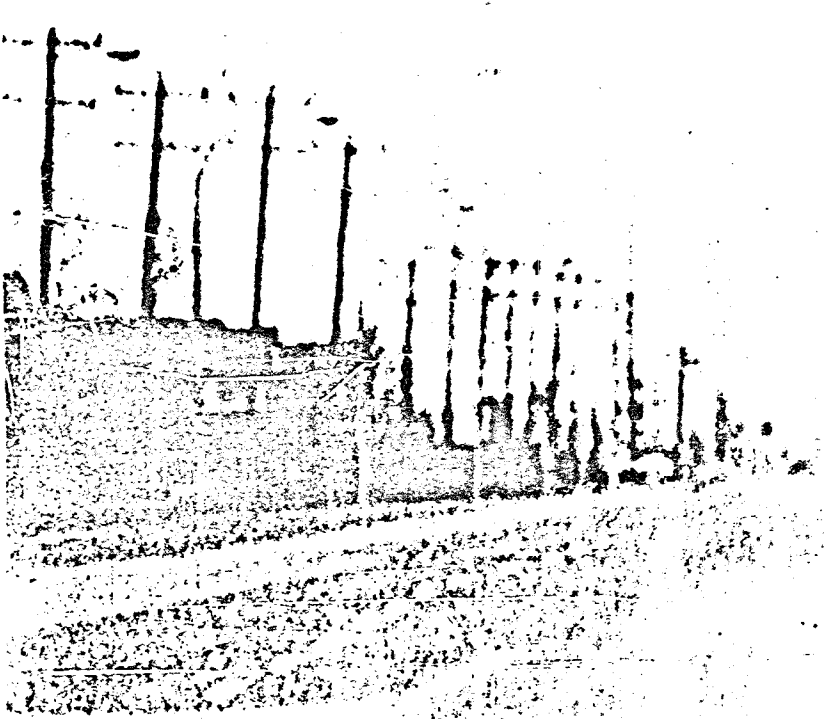
Among the most important items to accompany you in an evacuation, no matter how hasty, are medical prescriptions and appliances. In a disaster it may be impossible to reach your doctor to get a prescription verified for renewal. Insulin and hypodermic needles, for example, may be briefly unavailable. Many people involved in disasters die of heart attacks brought on by stress. Having your pills or your oxygen respirator—when space permits—could save your life.

Large, bulky valuables cannot usually be brought along. A stamp or coin collection might well be left behind out of sheer bulk or weight. It is wise to evaluate whether or not the entire collection should be stored at home under normal circumstances. Itemizing, locating and storing valuables properly will not only be of use if an evacuation becomes necessary, but also in the event of fire or theft. How can you claim the loss of something you cannot prove you owned in the first place?

For any sort of insurance purposes and just as an aid in the grim task of rebuilding or cleaning up, a photo record of your home and its belongings can be invaluable.

Other common-sense measures can be taken to reduce the risks of disasters

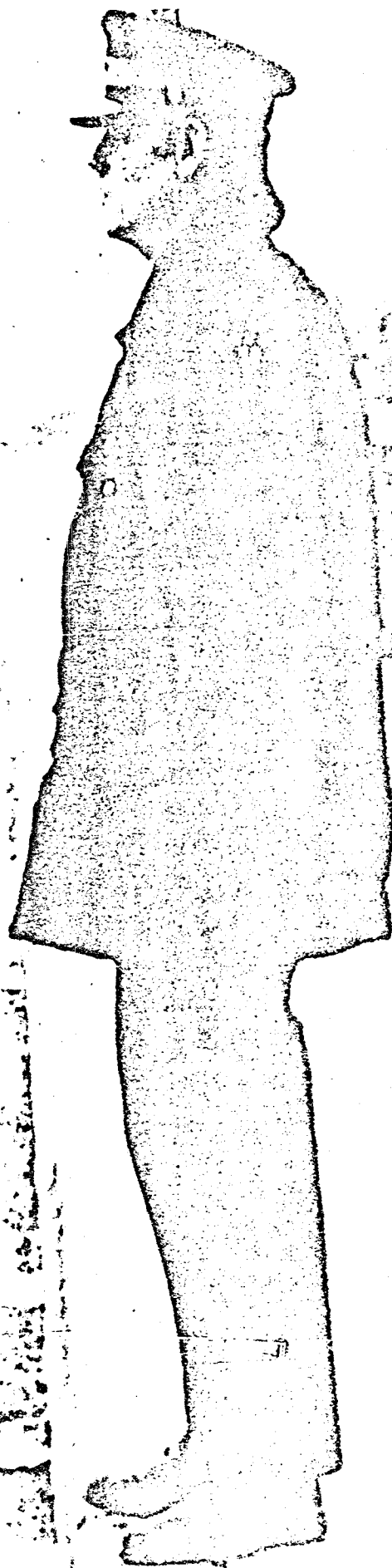
Jerry Ahern is a free-lance writer in Georgia.



Different emergencies present different circumstances.

Families will be advised to evacuate in the case of impending flood or noxious chemical leaks. But in the event of a tornado or even a blizzard, there may not be the time or the means to evacuate—indeed, evacuation itself may be too hazardous. Information from the Center for Disease Control in Atlanta on causes of death in the Wichita Falls tornado indicates that people were safer when taking shelter in a protected part of the home, or some other secure structure, than trying to escape. Yet mobile-home dwellers might well want to seek out more secure shelter. Find out what your circumstances dictate.

Understanding the nature of disasters that may affect you can be the key to survival. Check your home to determine the most structurally secure section in the event it must become a shelter. If you live in an isolated area, have at least one member of the family learn basic first aid and keep simple first-aid materials fresh and at hand. The Red Cross and other agencies offer first-aid courses and your family doctor can easily advise you what your first-aid kit should include. The National Oceanic and Atmospheric Administration (the Weather Bureau) publishes many booklets on weather-related injuries. So does the Center for Disease Control, which cites several ways to protect yourself during a tornado, for example. Many injuries are caused by flying debris. Covering your body with heavy blankets, even a mattress, can protect against trauma from broken glass, plaster, even flying bricks. Reinforcing an



interior room ahead of time—like a bath or a hallway—can provide protection against even a direct hit by a tornado. Common sense might dictate such provisions as shovels and crowbars for digging, and noisemaking devices to signal for help with.

In blizzard-prone areas, learn to recognize and treat hypothermia and frostbite. Keep an emergency food supply available, as well as heating and cooking units that you can operate when normal power is interrupted. A clean fireplace chimney and an emergency wood supply could be vital. Learn how to survive if stranded in a vehicle: simple precautions like keeping the exhaust pipe clear to avoid asphyxiation are easily overlooked. Travelers in rural areas in winter should keep a small survival kit in the car as insurance in the event of becoming stranded. The kit should include some high protein, storable foods (like peanuts), blankets, and a working flashlight.

A portable radio to provide information and directions can prove invaluable in the event of disaster. And, like the emergency flashlight, batteries should be checked periodically. Know your community's emergency plans. Are air-raid sirens used to signal a tornado watch? If no real plans exist in your community, it might make sense to try to correct that or to get together with friends and neighbors to make your own plans.

The cost of disasters to most people is in property damage. According to the Insurance Information Institute, a normal home-owner's policy will protect you from wind damage resulting from a tornado, and the comprehensive coverage of your auto insurance policy will protect the replacement value of your car in the same way.

There is no commercial coverage for flood damage. Certainly, if a pipe bursts and ruins your ceiling or floods your basement, most home-owner's policies will cover the loss—but not against rising water. If you live in one of the Identified Hundred Year Flood Plains, your only course of action is to secure coverage through the National Flood Insurance Program of the Federal Insurance Administration. The federal government is currently trying to encourage many communities to reevaluate the wisdom of continually rebuilding in areas that frequently suffer flood devastation.

In a flood-prone area, investigate the possibilities of storing valuable items in waterproof containers, determine which types of construction are strongest against rising waters, and most resistant to standing water. If your home is wiped out, consider relocating before rebuilding in the same area only to be flooded

out again. Any loss taken now might be more than offset by the diminished possibility of loss in the future.

No insurance policy will cover you or your possessions in the event of nuclear disaster as the result of war, and no commercial coverage is available privately to protect you in the event of nuclear accident. But, you are protected, and, in a small way, you pay part of the premium every time you pay federal taxes or pay a utility bill to a power company using nuclear energy.

There are 73 nuclear power plants scattered throughout the United States—67 of these are counted as fully operational

facilities. These nuclear plants and other companies involved in the nuclear industry—makers of nuclear fuel etc.—are insured through two pool-coverage syndicates, made up of the large national insurers. Until May 1979, the premium coverage was \$140 million. If claims rose beyond this figure, the 67 individual reactor plants could be assessed up to \$5 million per plant for additional compensation to victims. After the first of May, the initial premium coverage was raised to \$160 million, for all plants except Three Mile Island. The upward limit of coverage is \$560 million, the balance indemnified by the federal government and paid for by your taxes.

Beyond the level of \$560 million,

WHO CAN HELP

American Insurance Association
85 John St.
New York, N.Y. 10038

American Red Cross
National Headquarters
Washington, D.C. 20006

Center for Disease Control
1600 Clifton Rd. N.E.
Atlanta, Ga. 30333

Federal Emergency Management
Administration
• Civil Defense Preparedness
Agency
• Federal Insurance Administration
• Federal Preparedness Agency
(Government Civil Defense)
• U.S. Fire Administration

Premier Building
1725 I St. N.W.
Washington, D.C. 20472

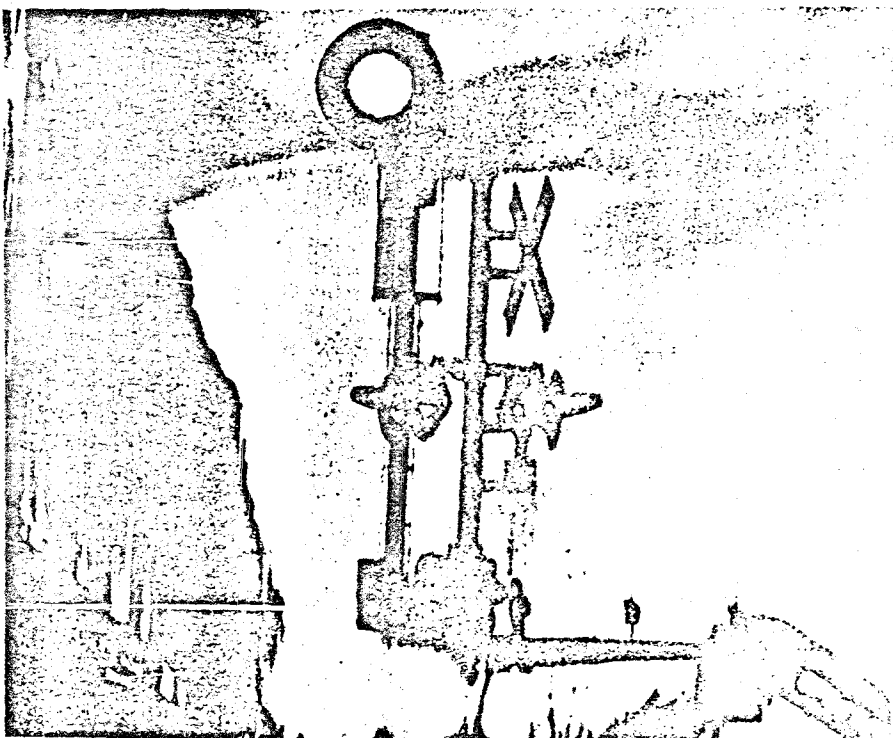
Insurance Information Institute
3070 Presidential Dr.
Suite 238
Atlanta, Ga. 30340

Mennonite Disaster Service
21 S. 12th St.
Akron, Pa. 17501

National Oceanic & Atmospheric
Administration (Weather Bureau)
Silver Springs, Md. 20910

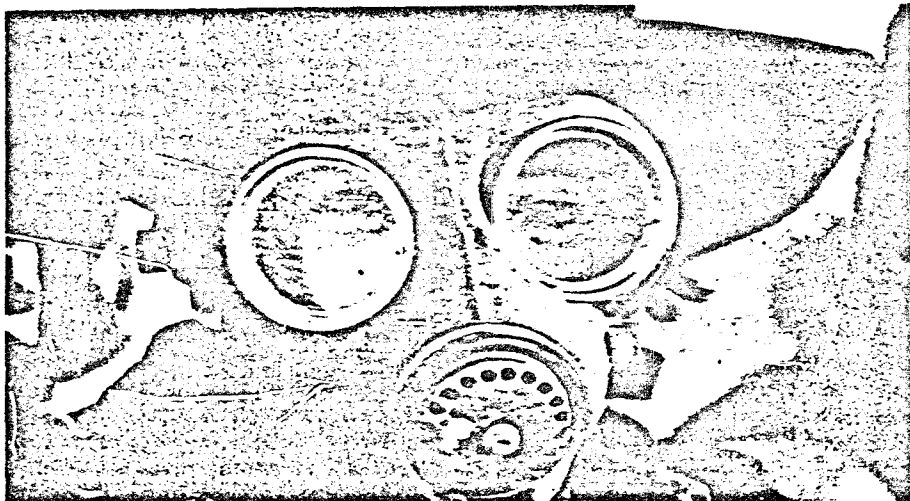
Salvation Army
120 W. 14th St.
New York, N.Y. 10011

Small Business Administration's
Disaster Loan Programs
1441 L St. N.W.
Washington, D.C. 20046



SHOCK TROOPS AGAINST DISASTER

The Federal Emergency Management Administration can use your help. When disaster strikes, college students, grandmothers, retired military personnel, free-lance writers—anyone who can take off on short notice—are needed to do just that, take off, flying to disaster areas to work long hard hours (paid while on duty) to help the victims. These men and women are Federal Disaster Reservists and their jobs range from writing and editing press releases to administering Disaster Assistance Centers to serving as public works projects officers. Clerks, secretaries—anyone with a skill—can volunteer to help, whether it means aiding in cleanup or just keeping the public informed to guard against panic. For more information, write: Federal Disaster Reserve Program, FEMA, 1725 I Street, N.W., Washington, D.C. 20472.



compensation to victims would have to be provided by an act of Congress. If Congress proved unresponsive to pressure from affected persons, no matter how many victims there were, no more money could be paid out in claims. The insurance pools indicate they would not drop coverage in the event of a major accident, but there is no guarantee.

To plan ahead for financial help beyond insurance limits in the event of a natural or man-made disaster, knowledge of the Small Business Administration's Disaster Loan Program before disaster strikes can be invaluable. Various prerequisites exist for these loans, but any Natural Disaster, as declared by the President, will automatically carry with it the supportive loans of SBA. Businesses and home-owners alike can be helped, with everything from emergency food stamps to unemployment compensation to overnight living expenses or evacuation expenses to loan dollars for repairs to homes and personal property. Combined loan value cannot exceed \$55,000 in excess of covered insurance loss. Application, and of course repayment, can be deferred. But an understanding of these requirements and benefits before a disaster takes place can save a great deal of confusion and grief later on. One of the sorriest aspects of any disaster is the victims' ignorance of how the federal government and private agencies can help them. Knowing beforehand can

save your family many unnecessary heartaches and lost opportunities. Keeping inflation-guard coverage on your home or business up to the current value of your property can allow you to get the most out of your insurance when disaster strikes, and will help assure that federally-indemnified loans can make up the difference on your loss.

Understanding such federal disaster loan programs can also save you money

and prevent you from needlessly over-insuring your property. If you know in advance that a wide range of types of compensation will be available in the event of disaster—and determine the extent to which it can aid you when necessary—you will be able to make a reasoned assessment of your options when a crisis arises.

One of the most basic matters to understand prior to a disaster is your likely financial position afterward. Reading and understanding federal aid programs can make a critical difference in the decisions you make during a crisis and thus in your ultimate financial condition.

Help in cleaning up, emergency provisions, and emergency medical treatment in an emergency will largely come from the private sector. The American Red Cross, the Mennonites, the Salvation Army—even Scouting groups—will all be there to help. These private agencies work with the Civil Defense Preparedness Agency and the Center For Disease Control to treat the injured, prevent the spread of disease, and help provide for your immediate welfare.

Supporting these private agencies with tax-deductible contributions and possibly becoming involved in their programs is one of the most practical and humane ways of preparing to help yourself. No single federal or private agency can be looked to as a source for all the information you should have to prepare for a possible disaster. The Civil Defense Preparedness Agency is the most accessible, however. An estimated 90 percent of U.S. counties have civil defense officers.

On a very real and personal basis, for seemingly more Americans each year, learning how to survive natural and man-made disasters may mean the difference between prosperity and ruin, life and death. ★

TEN COMMANDMENTS

1. Find out the extent of your insurance coverage in the event of disaster.
2. Put important papers in a bank safety-deposit box; keep copies (insurance, deeds, birth certificates, prescriptions) handy.
3. Make a list of valuables (with receipts) and their locations.
4. Keep a freshly supplied first-aid kit (including prescribed medications).
5. In isolated areas, keep an emergency supply of water, food, a portable cooking unit, and batteries for flashlight and radio.
6. Rehearse how to escape from your house and know what to take; know when to flee and when to stay.
7. If you live in a disaster-prone area (flooding, brush fires, earthquakes, hurricanes), investigate in advance the scope of federal and private aid programs that would be available in your circumstances. Learn the history of the problem, know the recommended types of construction, make a realistic assessment of your risk.
8. Become familiar with local disaster planning; know where you could go in the event of evacuation (friends, family, public shelter).
9. Know how to switch off gas, electricity, and water for your property; know when you should not attempt to switch them back on.
10. Plan ahead how to reunite your family, if separated.



FEDERAL EMERGENCY MANAGEMENT AGENCY

Region IX 211 Main Street, Room 220 San Francisco, CA 94105

May 8, 1980

Mr. Clarence C. Baal, Jr.
Disaster Control Recovery Team
Douglas Aircraft Company
3855 Lakewood Boulevard
Long Beach, California 90846

Dear Mr. Baal:

The fact sheet requested in your letter of April 28 has been updated and is now entitled, "This Is The Federal Emergency Management Agency". Six copies of that brochure are enclosed for your information and use.

The Federal Emergency Management Agency (FEMA) was established in 1979. Program areas that were previously the responsibility of the Defense Civil Preparedness Agency (DCPA) and the Federal Preparedness Agency (FPA) are now encompassed in the Plans and Preparedness Division of FEMA. The FEMA Division of Disaster Response and Recovery has assumed the responsibilities of the former Federal Disaster Assistance Administration (FDAA). Two other agencies included under FEMA are the United States Fire Administration (USFA) and the Federal Insurance Administration (FIA).

FEMA has not made any earthquake predictions and will not. However, FEMA representatives have discussed the findings of a Public Affairs Report, Bulletin of the Institute of Governmental Studies, Vol 20, August 1979, No. 4, University of California, Berkeley, by Bruce A. Bolt and Richard H. Johns, which states in part that ".....in this light, 50-50 odds can be viewed as a modest, perhaps even conservative appraisal of the likelihood that California will experience an earthquake of magnitude 7 or greater during the next ten years."

Responding to your specifically numbered questions:

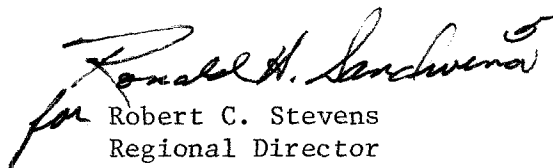
1. The FEMA Nuclear Civil Protection (NCP) program includes both Crisis Relocation Planning (CRP) and Community Shelter Planning (CSP). NCP is a current priority program of FEMA and planning is under way in all 50 states. Generally, across the nation planning has been pursued at a relatively modest level of effort, with plans having been developed for about 12 percent of the jurisdictions for which plans are needed.
- 2-3. We do not consider electrical generating plants to be "prime targets". As you might surmise, the identification of likely targets is somewhat a guessing game since enemy intentions are not only unknown, but unknowable in detail. An enemy's selection of target areas is a very controversial subject and perhaps the largest variable

in strategic defense analysis. Nevertheless, the subject can be approached by evaluating the importance or worth of a nation's resources, and then make prudent assumptions on the weapon laydown likely to be needed to destroy those resources. Targeting objectives could thus be established and perhaps categorized in priority order. This was essentially the approach used by FEMA in the development of the publication TR-82, "High Risk Areas For Civil Nuclear Defense Planning Purposes". California risk area data may be obtained from your State/local emergency services coordinator.

4. We do not have any FEMA (or DCPA) publications on chemical and/or biological warfare. Studies conducted by the Department of Defense indicate that the threat posed by chemical and biological agents is relatively less significant than that posed by the nuclear one. Chemical agents are not considered a major strategic threat, as they are effective mainly if used against tactical targets of limited area. Although the possibility of employment of biological agents against U.S. population centers cannot be ruled out; neither a chemical nor a biological threat against the Continental United States warrants, at this time, the attention and priority given to defense against the effects of nuclear weapons. Accordingly, the civil defense program will continue to emphasize defense against the effects of nuclear weapons.

Thank you for your continued interest in civil defense.

Sincerely yours,


for Robert C. Stevens
Regional Director

Attachment

○ Director FEMA statement before House, released 3-12-82

Wants completed program by end FY 1989. Wants 252 million for FY 1983. Believes will be sufficient warning for CR. Idea of nuclear attack unpleasant to difficult to gain planning support. Plan thus would not require public support until receive warning. Thinks plan will work if can get a weeks warning. Wants plan in place, ready when people finally realize the need.

Claims have over 2 million trained emergency managers, most local employees. Police, fire, emergency will be at the forefront in a war. Will be augmented by volunteers. (2 million includes responders, fire etc)

For FY '83 wants 66.3 million for state and local. Wants 8200 emergency managers by end FY '87, at state and local level. Wants a radio net in each state. Wants raise full time RAOE from 202 to 254. Maintain 237,000 sets of instruments, deployed in early 60's. Wants to give out 50,000 shelter sets, cost 1/5 of old sets.

Says only 36% of population now has a CR plan and some of those out of date. For FY 83 wants add instructions in phone books to cover 38 million. Intends to use military reservists. Have little practical experience (only 2 bombs) so some funds will go to further research, including recovery. Would integrate nuclear and natural disasters.

Wants a new communications system that would survive nuclear attack with radio primary. Each state to have high frequency radio capability by FY 84 and 85. Wants aid to fix local radio stations with emergency power, faster protection. Wants more than one form of radio system.

CD gives realtime capability, a single system to cover the whole spectrum.

Says government leaders at all levels know CD essential.

○ my notes prior to reading CRP plan

One section of 99 in the Central Valley, 2 lanes north, will handle 72,000 24 hrs., 3000 hrs hr, or 1500 hrs hr. for a single lane. At 3600 seconds hrs hr. $\div 1500 =$ one car passing every 2.4 seconds. Speed can be figured if car spacing is known.

If cars travel at 60 MPH, 200' apart, that's 26 hrs minute past a given point, or one every 2.3 seconds. If 60 MPH and 100' spacing, that's one every 1.15 seconds, or 3130 cars hrs hr. (hold to 55 MPH for 3000)

If figure one car length for each 10 MPH for safe spacing, that's about 96' between vehicles for 60 MPH.

○ Film on London Blitz

In 3 days, 600,000 children were evacuated from London due to Christmas 1940, a quarter million children were in London, most having drifted back from the evacuation. Many adults also evacuated spontaneously, heading west from London.

○ From review of Disaster Planning by H.B. Foster JCD 681

Examples are all in Florida and deals with fact cities are located in hazardous areas with vulnerable utilities and inadequate evacuation routes. Assume thinking mainly of hurricanes.

○ Laine's question: How do we know the SU has a CD program and that many missiles.

○ See Notes: Alas Babylon, Age of Cataclysm, Survival and Bomb

○ See file folder "Evacuation"

○

In this book, evacuation is due to the flooding of all coastal areas by the melting of the Antarctic ice, but reaction would probably be similar no matter what the cause. In this case, it is winter, and heating systems cease to work, no doubt due to lack of power. Streets of roads and fields jammed with carloads of frightened people. Sane hospitals, power plants, police, fire, fair airplanes, military bases, etc. abandoned in haste. Animals escaped from your attached helpless people.

In traffic jams on highways, people abandon cars, and in the cold seek shelter wherever they can find it.

○ Day Ocean Overflowed

In this case antarctic ice has melted and will be coastal flooding. Radio alert, evacuate, take no possessions, leave by most convenient transp. Ask listener to awaken neighbors and inform. Make room for others in your car.

Characters are gorged for gasoline

○

Some Questions About The Crisis Relocation Plan

- ① The plan assumes the average family will take only the first car. Cars are expensive, and a family could own several. I feel there will be many attempts to take more than one car, and I doubt there will be enough police to prevent it, even tho there will first move cars on the road. I think a plan could be made that would take advantage of the extra space.
- ② The plan listed a limited mobility population, people that don't own cars, and would have to be transported by bus. I would imagine this number is overestimated in that many will find their own rides. I would assume that the vast majority of those without cars are the elderly, and of those, a great many have relatives who will take them along in the evacuation.
- ③ The plan mentions the fact that if an evacuee car breaks down on the road, and the problem can't be fixed by a service call, the vehicle will have to be abandoned, and the occupants will have to be picked up by vehicles that have room. This brings up a number of questions.
 - a A family of 3, with their belongings. Even if a single occupant car is willing to stop and pick them up, would there be room?
 - b What if the breakdown occurs near a hosting area. The stranded family could go there and perhaps have the car returned in time for the return trip, but the family is assigned to a hosting area much farther on.It appears to me, that a better plan would be to first buses on the road to pick up those that are stranded, and if there aren't enough buses, 1/2 ton vans, or even trucks would do.
- ④ The plan talks of a combination of buses and carpools to move key workers back and forth to their jobs. It should be obvious the autos with 4 passengers aren't the answer. The small 10 passenger buses or 9 passenger station wagons, 1/2 ton vans with seats, etc are the answer. Less vehicles on the road and less gas used.
- ⑤ What about the jails and prisons? Many are in risk areas. Are there enough prisoner buses to move them? I doubt there is enough in place protection. Will some be turned loose, or given parole?

- ⑥ Perhaps the criminal element will be too worried about saving their own skins to do any looting as the Q & A book suggests, but then that question seems to have been answered by some liberal sociologist, who claims that looting is mostly a myth.

What happens after the criminal gets to a safe area? Does he remain on his good behavior, or go back to his old ways. I'm inclined toward the latter.

- ⑦ You will reach your looting area on 1 tank of gas, or it's over 200 miles. There will be fueling facilities on the road. The study is figuring an average mileage of 15 MPG. I think that's too high, especially in bumper to bumper freeway driving. An auto burns gasoline while you're sitting still waiting for traffic to move.

- ⑧ The study compiled the number of gasoline stations in the state, and their average gasoline supply. Stations carry 3 grades of gasoline, but what happens when the unleaded pump runs dry. Will there be provisions to make the nozzles of the other pumps fit the small neck of the unleaded tanks, or would this be against EPA regulations?

- ⑨ According to Klemm, 30% of the rich population will evacuate spontaneously prior to the official order. From this we can assume that perhaps 30% of the service station owners will leave, with their stations closed, and the pumps locked. This factor was not mentioned in the study, but then too, 30% of the people would also be gone.

- ⑩ The availability of basements in California, I feel is much lower than the figure listed for those in residence. Being as the information came from census records, I feel people listed basements such as we had in Petaluma, one mostly above ground.

- ⑪ Certain industries will be declared essential and will remain operating until the missiles are on their way. Now I saw two attitudes. The business owner who wants his operation declared essential so he won't lose profit. If his operation is declared essential, will he be willing to stay on the job, or will he turn the management over to an underling while he takes off for the safe area. Could politics enter into who is essential? Now about the employee who will be required to commute to a job he feels is really non-essential.

Questions about CRP

(12) Will the price of gasoline suddenly rise, both in the city and at the on the road fueling stops? How about other commodities such as food, camping gear, auto parts, etc.? And price rising before they've had a chance to change the price on the pumps.

(13) The plan assumes everyone will be filling their gas tanks before they leave. What about the person who has a flat tire, is broke, and it's 2 days until payday.

(14) Under the plan, food would be shipped from central wholesalers to retail outlets in the host areas. No mention is made as to who will be paying the retailer; I assume the federal government, because feeding will be in communal kitchens. What about the person who has his own food supply. Will he be expected to use his own food rather than the kitchen?

(15) The plan does not concern itself with resettlement, only to protecting the population up to the time they enter the shelter. In my opinion, if resettlement should become necessary, provisions for such would have to be made ahead of time, or concurrently with evacuation. If with the evacuations, highways are already crowded to capacity in some spots.

To my way of thinking, such as gasoline, food and other supplies needed for recovery would have to be moved out, but could they possibly be moved to the nearest storage place out of the risk area, and thus cut down the traffic problem.

(16) The plan calls for maintaining wholesale distribution in the risk areas, rather than warehousing in the host areas. The justification for this is the difficulty of changing the system and the lack of warehousing in host areas. At this time, or is there a profit motive involved.

The plan locates warehouses, but little is said about processors. It does appear that in many cases, food being trucked in to the wholesaler will pass food coming from the wholesaler on its way to the host area.

I can see a shortage of such as cold storage warehousing, or perhaps slaughterhouses, but a case of peas can be warehoused on a pallet under a plastic tarp in the middle of a field, and beef can be butchered where it is to be eaten. Frozen foods could be eliminated but shipping eggs more than a day or so would be a problem.

(17) What problems are going to arise due to navigation aids who can't find their dealers.

(18) In some cases, evacuation under a uniform starting and travel arrangement, will mean about 25% will not make it out in 3 days. Such is based on 100% evacuation tho and does not take into account the "stay putters" and the essential workers,* so 25% left would have to be reduced. The plan recommends against a 2 step plan where families are moved to a temporary starting area, and then moved on.

Why such a partial 2 stage, using people who agree to, and are capable of being self sufficient for a few days. An incentive, let them leave first, for camp grounds outside the risk area, but before you get to the battle necks. Every car you take off the road makes room for one more.

At the end of 3 days, the highways should be empty, and the camps can move on to their assigned starting area.

* Also are assuming as much as a 30% spontaneous evacuation. That alone covers the 25% remaining after 3 days.

(19) On the matter of bottlenecks, is full use being made of all roads. The twins drove from Canada to Nowak, and they had to start off the freeway. They did on SR-1 and U.S. 101, but are there other roads they could have used if those routes were forbidden too? If you could use backroads, will they take you around bottlenecks, and at the same time avoid creating major tways on the same level.

(20) What effect will railroad average have on highway use? Are there under, or overpasses on all major routes?

(21) On moving people in such as buses, why does a passenger train have to be shorter than a freight train? Surely the weight is less. As to loading facilities, you don't need a loading dock if the train is standing still. Put on a passenger car for the elderly and disabled, but the rest should be able to scramble into a car.

(22) on the 15 MPG figure for evacuee cars. Disregarding the waste of gasoline while sitting bumper to bumper on the freeway, a car loaded to the roof is not going to get the same mileage as one carrying only a couple passengers.

(23) Civil defense is going to have to overcome their previous low credibility and the attitude of it being another bureaucratic boondoggle. To me, the shelter program has left a bad impression. A new problem is convincing the public of the worth of evacuation when it previously was declared impossible.

- (24) Apparently your governmental services will move with you, including fire and police, but what about communication. Surely the CHP will not be able to handle the traffic without help. There will be local police to arrive, but their radios will be on different frequencies. Same for assisting local area police.
- (25) More and more I see the need of more emergency channels being reserved on CB, and especially in the lower channels because of the number of 23 channel units still in service.
- (26) The evacuation plan will not be ready until 1985, but what about the meantime. According to Klemm, no public information programs are planned for the interim. I would start a program of saving home food storage that is portable, and the obtaining of at least minimum camping gear. Also arrangements with friends and relatives in safe areas. The advice in "In Time of Emergency" is not explicit enough. Any interim plan no doubt would be inefficient, but if the threat comes, what do we do, bend over with our heads between our legs and kiss our posterior goodbye?
- (27) Gasoline: Study figures are Aug '77. Counted service stations, but no doubt less stations now. What if order comes on a holiday. Will operators come down and open up. Study figures are no doubt some time prior to Aug '77.
- (28) If too many service station operators have evacuated, or don't open their stations, the fuel is still there. Will any provision be made for using that fuel.
- (29) Now about paying for gasoline. Will only cash be accepted? If credit cards are accepted, it will slow the fuel lines. Some stations will only accept their own oil companies credit cards.
- (30) Do you carry a funnel with a short piece of hose that will fit into the fill pipe of your gas tank? Some on the road fueling could be direct from tank truck. Will they carry all 3 grades? Only 2? If run out of unleaded will they fill with regular?
- (31) They've counted seating for eating. Now about toilet seats.

- ③ One of the members brought up the question of bottlenecks in our evacuation routes. Would communists here attempt to sabotage the highway to stop traffic altogether?

Evacuation Notes CRP

- ① Traffic: my note before reading CRP, on convoyed evacuation. Problem of having to take 2 lanes down to one lane. Bikes in convoys regiments to let those getting up back on. Problems with wire guys trying to pass. Problem with poorly maintained autos.
- ② Toilet facilities: Before reading CRP. Would need rent-a-cans along the route, or quickly dug privies.
- ③ Insurance: The director of CD (1979) says your insurance is automatically canceled when the cities are evacuated.
- ④ Routes: Need routes out of the basin, both by vehicle, or on foot.
- ⑤ Criminals: What can expect from gangs, addicts, fast animators, hardened criminals, mafia, punks, deadbeats, those on the edge of criminality.
- ⑥ See "Survival and the Bomb" notes
- ⑦ Evac. supplies in car, include cooler wagon, shopping dolly, trash drum cart, wheelbarrow
- ⑧ True Test will come when car breaks down, runs out of gas, or you must move farther on after hot area.
- ⑨ Where do you put the cars?
Move 18 mil. people in 6 mil. cars. Allow 8' x 30' for each car, which allows 26' drive between. Gives 182 cars per acre, or 33,000 - acres to park 6 million cars. How many small towns will serve as host towns. If 330 towns, would take 100 acres per town.
- ⑩ Going to friend or relative in safe area. Relatively long distance if can carry gasoline. If thinking of buying property, is it in a safe area and systems independent?
- ⑪ Should be prepared to make own fallout shelter in the wilds if you have to. Have fish and shovel, 2 people. One use fish, then slip back and let shovel man work.

⑫ Even after missiles have hit, most won't have their own meter. Should be monitors along the route and hopefully could broadcast.

⑬ 4-9-79 U.S. CD head: All insurance coverage canceled if evacuate. Will have radio to warn public before attack. Don't have afterward

⑭ Conditions can change on even a short auto trip. The same applies to a government planned evacuation. Never rely wholly on government.

⑮ Is dangerous to carry gasoline in the trunk. Might be able to make up a couple metal strap hangers that hook behind the bumper, extend out, up and back to catch the inside of the top of the trunk opening. Board across for gas can to ride on and tied down. In a pinch, can in trunk, near rear of car and trunk lid left partially open.

⑯ The Survivalist, Book 1: U.S. under nuclear attack. All areas of high population have been placed under martial law. Sales of arms, ammo, liquor, etc. curtailed. "To heighten the effectiveness of Civil Defense measures."

TO
ROUTES Here and friend enter a deserted town, with mountains near by. Possible escape whenever there's a disaster, people think of going to the mountains.

⑰ Pulling through: With no good plan, family planned their route without using the freeway.

⑱ Same: Used phone recorder so would not miss calls and inform others of their plans. Rule of one know something up, kept 2 radios tuned to different stations

GET READY, GET SET, GO WHERE?

Dr. Bruce Clayton Examines Crisis Relocation



EARLY last year I was approached by a representative of the Institute of New Economics, a conservative economic analysis group, and asked to prepare a critique of our national civil defense establishment from a survivalist viewpoint. It was an interesting exercise because, quite frankly, I had never given any thought to the matter. As a survivalist researcher my concerns had always been at the level of the family or small group, and the concept of a national civil defense program based on survivalist principles was very novel, to say the least.

This study took two parts. The first was a critique of crisis relocation planning, which is the Federal Emergency Management Agency's (FEMA) major effort toward wartime survival at present. I found this policy to be conceptually unsound and woefully inadequate. The second phase of the study involved a proposed program that would start the nation on a realistic path toward meaningful civil defense.

The fundamental error of government civil defense planners is their failure to appreciate that conditions in a nuclear attack zone will demand an instantaneous transition from complacent peacetime standards to desperate wartime ones. This has led to criminally short-sighted "survival" planning that

Photo by the Photo Works 1979

overlooks such fundamental unknowns as how survivors are going to obtain even minimal supplies of food, water, fuel and medicine. Without such provisions it is difficult to imagine how the majority of survivors, amounting to as many as 150 million people, could possibly remain alive during the first year after an attack.

Recent declassification of 5,000 pages of top secret Kremlin documents stolen by U.S. agents in the late 1960s accentuates this oversight. (See Douglas and Hoebel, *Soviet Strategy for Nuclear War*, The Hoover Institution, Stanford University, 1978.) These documents, in addition to confirming the suspicion that the Soviet Union has been pursuing a surprise first-strike war plan for decades, provide a view of the Soviet nuclear targeting policy that is frankly terrifying. If these documents accurately reflect current Soviet targeting policy, then our post attack survival problems may be extremely severe.

Soviet documents describe a targeting policy designed to demolish the United States as a political, military and industrial entity. The targeting goal is expressed as the simultaneous destruction of all U.S. strategic weapons, military bases of every kind, industrial sites, raw materials sources, com-

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Dr. Clayton is a FEMA-certified Radiological Defense Officer and, believe it or not, a member of the Physicians for Social Responsibility — along with Helen Caldwell.

Dr. Clayton lives in the Sierras near Yosemite National Park, and is an outspoken proponent of nuclear-war preparedness at all levels — public and private.

BOOK →

munication centers and electrical generating plants. The Russians give electrical plants special emphasis in their planning because of the effect sudden and permanent deprivation of electricity would have on civilian morale. In short, their targeting policy is designed to remove the United States from the ranks of world powers with drastic finality so that we will never obstruct Soviet expansionism again. This is the reality that the U.S. civil-defense effort must confront before wasting time and money on unproductive, unrealistic programs.

The major current thrust of FEMA and many state civil-defense agencies is the preparation of "crisis relocation plans." CRPs are supposed to outline the procedures by which the entire population of a high-risk urban area could be evacuated to low-risk (usually rural) "host" areas during periods of severe international tension.

Justification for writing such plans is that the United States needs to have an effective relocation plan to counterbalance the massive evacuation system devised by the Soviet Union. The CRPs therefore become bargaining chips, written so that our president can wave the studies at the Soviets and threaten: "if you evacuate your cities, we'll evacuate ours, too."

This must be the real purpose of the CRP effort, because few civil-defense professionals think the plans would actually work. Many of them will tell you quite candidly that they are writing CRPs only because their federal funding is contingent upon it. In fact, civil-defense professionals (and survivalists) half-heartedly joke that the only effect of these crisis relocation plans would be to relocate the crisis.

CRPs presume that there will be a lengthy period during which the danger of nuclear war will become more and more apparent to everyone, and that last-minute efforts to prepare for the evacuation can be made at this time. Although most plans postulate a lead time of three to seven days, in some cases this "warning period" has been estimated to range from one to six months in length. Sometime near the end of this period, the president would order the evacuation of cities.

At this juncture the plans call for the mobilization of entire urban populations (17 million in California alone) to outlying host communities. After the refugees have been assigned quarters in local residents' homes, the plans call for daily truck deliveries of food and medical supplies from the abandoned cities. Essential services within the cities would be kept functioning to support the relocated residents. Police, firemen, telephone workers, bakers and grocery personnel would be expected to remain in the city, in spite of the imminent danger, to coordinate food shipments and protect property

from fires and looters.

At this point the plans usually draw to an uncertain conclusion. Few, if any, plans contain provisions for returning the displaced people to their homes after the crisis, and there are no provisions whatsoever for dealing with them if the city actually is destroyed! I asked one county civil-defense director how he would handle his local residents and refugees if the attack took place. He replied, "All I could do would be to go home, take my personal disaster supplies down to my shelter and shut the door after me." This man is responsible for 70,000 lives!

No wonder this country's people are turning to survivalism for their civil-defense needs.

The assumptions behind the crisis relocation plans are enormous and highly questionable. The 1980s make it brutally apparent that our greatest danger comes not from an escalating crisis but from a Soviet surprise attack aimed at disarming us. Recognition of this danger provides impetus for the furor over the MX missile, B-1 bomber, cruise missile, Trident submarine and even the neutron bomb. Assuming, then, that a surprise attack is a significant danger at this time, a plan that postulates six months of warning, or one month, or even a day, is naive to the point of idiocy.

The second major assumption is that the urban population would consent to decamp. If there were a "warning period," a percentage of the population (perhaps as much as 30 percent) would undoubtedly leave the cities spontaneously. (The Cuban missile crisis produced such a spontaneous evacuation of Florida cities.) In California, however, that would leave 12 million people who for some reason did not evacuate. All the police, firemen and National Guardsmen in the state would be unable to force 12 million people to abandon their homes. It might require months to forcibly evict even one million reluctant refugees. While many people will leave town on their own, without a plan, most of the others may refuse to leave. If this is true, how effective is the plan?

The third great undocumented assumption is that people in low-risk areas will gracefully accept tens of thousands of refugees into their homes — especially with a nuclear attack in the offing. The evacuation plans entirely ignore the possibility that the refugees from inner-city areas may not meet the ethnic standards of host communities. The bloodshed potential of this situation should be readily apparent to anyone with a grasp of modern American racial tensions. Often a newspaper article outlining the crisis relocation plan for a host area will be enough to induce vigilante groups to design plans to "blow up the bridges." Whether these groups represent a majority opinion matters little. Just one dissident per bridge could frustrate the entire plan.

The fourth assumption suggests that life will return rapidly to normal once the evacuation is over. Although most people would eventually find their way back to their homes through one means or another, this migration might take one or two weeks due to its disorganized nature. Considering the scope of the operation, the evacuation, relocation period and subsequent return of the population to the cities almost certainly would take three to four weeks. The impact of a four-week dislocation of the work force on the nation's economy is a side effect that civil-defense planners tend to ignore, or at best excuse, on the rationalization that it's better to lose the economy than the people.

This erroneous attitude shows an incomplete grasp of the situation. If there is no war, the CRPs will severely wound the economy without saving anyone's life. This consideration alone may prohibit the president from invoking the plans, or from invoking them before it is too late. But even if the plans are put into motion in time, and even if they perform flawlessly, the CRPs will still not save a single life if a war actually occurs.

Crisis relocation plans attempt only to shelter and feed the refugees until the war begins. After that, the refugees are left on their own to survive as best they can. No food has been set aside to feed them after the attack; no medicine stocked for the sick and injured. Locally, essential supplies will not provide even for the permanent residents in the host communities, let alone the uninvited guests. It seems that CRP planners have orchestrated elaborate evacuations to preserve people from death by fire, radiation and blast, only to have them die a few weeks later of starvation and disease. Worse than that, planners have simultaneously doomed the host residents to the same fate, even though they would otherwise have a chance by establishing self-sufficient rural enclaves for the post-attack period.

In summary, current efforts by national and local civil-defense authorities to prepare viable crisis relocation plans are at best meaningless and ineffective; and at worst imperil the survival of low-risk-area residents. Whether or not civil-defense planners continue this waste of money and manpower into the 1980s is a crucial question facing us. An even more crucial question will be what kind of civil-defense program should replace the present one.

The first step toward establishing a viable and realistic civil-defense program is to recognize the realities of the post-attack situation and to apply the woefully limited budget earmarked for civilian defense to the critical areas where such expenditures will actually influence the nation's recovery. Any civil-defense program that ignores this principle will be a waste of time, money and lives.

My proposal for a new national civil-

defense program begins with a very distasteful principle: that of triage. "Triage," a term borrowed from battlefield medicine, denotes the sorting of casualties into groups prior to treatment.

The first group consists of casualties who will survive without immediate help. These people are left for later treatment. The second group includes the casualties to whom prompt medical attention will mean the difference between life and death. These people are moved into the operating or treatment rooms at once. The third group of casualties are so severely injured that nothing short of a miracle could possibly save them. Since treatment of these casualties would drain aid from those who can still be saved, they are treated only after the other casualties have received adequate attention.

Viewing potential attack areas of the United States as casualty groups of "the nuclear battle" (as the Soviets call it), the principle of triage can be constructively applied in a civil-defense context. Some areas can probably survive a nuclear attack without any federal assistance (Hilo, Hi., for example), so civil-defense planners can legitimately overlook these communities while they concentrate on more demanding locations. Many other communities, especially rural ones, could be made substantially resistant to nuclear attack with small investments of time and money (for example, Kalispell, Mont., or Madera, Calif.). The relatively small expenditures required there should be undertaken immediately. Those areas near strategic-weapons systems, including Great Falls, Mont., Omaha, Neb. and Little Rock, Ark., will have such severe survival problems that no amount of federal assistance is likely to have much impact. These locations — like the third group in the battlefield triage — should be set aside for later attention so that they do not detract from efforts to strengthen the borderline communities whose survival chances can be increased.

This is especially critical because of the key nature of the borderline areas. For the most part they are rural, agricultural communities that can be made self-sufficient in wartime if there has been effective emergency planning to stockpile adequate fuel and medical supplies prior to the attack. Since these communities are unlikely to receive nuclear effects other than fallout (for which they could be easily prepared), they can survive the war with their physical, political, social and economic structure intact. With just limited assistance and encouragement, they could be prepared for wartime independence.

Making rural communities capable of self-sufficiency is an absolute prerequisite for recovery of the nation as a whole. The vital relationship between urban and rural communities has been entirely ignored by the civil-defense establishment. Food is

the essential factor. During the recovery period food will be the chief limiting factor in the rebuilding of the nation. Hungry people, especially parents, will tend to devote their energies to feeding their families instead of to reconstructing communities. If food is scarce, foraging will be the primary activity of the survivors, and little if any reconstruction will take place.

Food does not appear naturally and abundantly in the modern world. Our nation depends on a small group of agricultural specialists for its entire food supply. In a post-war situation these farmers and ranchers will hold the fate of the nation's survivors in their hands. They may well be able to feed themselves, regardless of the circumstances, but we must see to it that they can produce enough grain, potatoes, meat and poultry to support the other parts of the nation. If not, all the civil-defense planning in the world will not save us.

No current effort is being expended to protect America's farmers or to ensure that farming communities will be able to meet the challenges of the war and emerge as intact, functioning entities. This must be the first goal of any realistic national civil-defense plan. However, FEMA's current schedule calls for attention to these rural areas sometime in the late 1980s. Unfortunately, according to many authorities, that may well be after the war.

An alarming illustration of defense strategists' blindness to the importance of food-producing communities can be seen in the irrational placement of the Minuteman and Titan missile silos. These silos are located in Arizona, Montana, North Dakota, South Dakota, Wyoming, Nebraska, Colorado, Kansas, Missouri and Arkansas — the western edge of the fertile Mississippi Valley and the plains bread-basket region. An attack on these silos by nuclear warheads will generate enough fallout, during the first few minutes of the attack, to insure that the nation's largest and most productive agricultural section will experience severe radioactivity problems in the weeks after the attack. Not only was no thought given to protecting farmers, silo placement almost seems a deliberate attempt to place them in the greatest possible danger.

In summary, a realistic civil-defense and national-recovery program cannot be developed until the civil-defense strategists have taken an unflinching look at the Soviet nuclear-targeting policies to determine the probable nature of their assault on the United States.

Then any proposed survival plans must be ruthlessly examined against the details of the envisioned attack. Those programs exhibiting a lack of contact with reality should be instantly canceled.

Any reorientation of the national civil-defense program should concentrate first on long-term survival and recovery,

because short-term measures are wasted if they fail to address the fundamental issue of how to provide survivors with adequate food, water and medical services for a period of months or years after attack. The keystone of this program should be the strengthening of rural agricultural communities.

Only after these steps have been implemented will it be appropriate to begin the expensive and difficult programs that will be necessary if we are to save the lives of people living near strategic nuclear targets and in urban high-risk areas. Attempting to save these people should be ← POLITICAL
REFLECTIONS our lowest priority, not the highest one. Like the severely wounded battlefield casualties, the high-risk areas drain vitally needed aid away from communities where it is more likely to influence the nation's recovery. Our current national civil-defense effort concentrates on the high-risk areas to the exclusion of all others.

I believe that a constructive and effective national civil-defense program can be mounted for a relatively modest amount of money if these guidelines are followed. Although priorities of community selection for aid might be arguable in the political arena, realities of post-attack survival are not. The nation as a whole must adopt the survivalist credo of "food first." When we know that we will have something to eat we can branch out to such luxuries as city evacuation or blast-shelter programs. To pursue any other course in our civil-defense planning is to embrace disaster for ourselves, our way of life and our civilization. ☺

Optimistic for Soviet is 17 million, 20 = 89% of pop. They estimate 4-6%.

Some say can evacuate much of pop in 48-72 hrs. Can cover war by doing it into or under cover. Some say can evacuate, shelter or combination. Feels only small % evacuate (Other info doesn't agree)

If didn't Soviet evacuation go on alert, maximum readiness for attack but can only hold so long. President order US evacuation and economy halts while SO production continues or workers have shelter under their feet. SO even protects its cows. In end they may have more cows than we have people.

Some think it will be into 1990's before we can win nuclear war. Sees no meaningful warning here till '86 or '87. This is the best time for SO to strike. Too many Americans believe nuclear war not winnable. Soviet believe it is, and have said so. Some say SO won't attack because we can destroy 200 of their cities and they'll all die. Right, but 1700 cities destroyed and their society didn't end. Cities can be rebuilt, someplace else if necessary. People, not cities important, the vital ones will be saved. In WWII, 92% of Wernberg, Germany destroyed - War rebuilt on same spot.

US must stockpile vital supplies. If away from targets, all need is a fallout shelter. Wash DC efforts to evacuate into Va. but Va will stop at border. Under federal law, Va doesn't have to cooperate. Don't have that problem in SO. In Cuba crisis, Calif. said would help refugees from other states one, and legally, could.

Some say to evacuate LA, would have to take people to Ariz., taking 7-14 days (bull) War can come in 7 to 35 min, no nuclear. (Common anti argument) Can't give priority to the skilled. Would be tarred and feathered, (Don't mention SO give priority). Say can't expect families to do right thing, such as turning off power and gas.

In a crisis people will try to maximize their survival, but may not know right thing to do. In Cuban crisis Californians ran for the high

Sierras, the worst place to be for the fallout pattern

Some say one or two people working for a day with proper knowledge and equipment can build a shelter. (Not if in a black area, and still must be 24 hrs. warning before build ahead of time. Apparently speaking of building ahead; 5 heads of Henry Miller, plans from Dept of Commerce.

Some say the Soviets don't target cities. Say US public is as ignorant of bomb effects as we 35 years ago. Most unwanted radiation effects decline. If home in fringe area, get flammable away from in line with windows. Remove drapes, etc. 70% reduction in chance of fire

... while the SO increased US didn't believe SO

RELOCATION AND RESETTLEMENT CAN'T BE SEPERATED

Unless you consider a nuclear exchange unthinkable, and relocation merely a counter move to the Soviet plan, it is impossible to separate relocation from resettlement. If you are leaving on a vacation trip, you plan for enough money to get you home again, not just for the outward leg of the trip. Most would not be foolish enough to deliberately strand themselves at the farthest point from home. Planning for relocation/resettlement is a far more serious matter than a vacation trip, with your very life depending on the farsightedness of the planner.

After reading the study for relocation in California, I've had my doubts about the mental attitudes of the writers. Could it be that they consider a nuclear exchange unthinkable and that relocation is only a counter move to bring the enemy back to the bargaining table? That after a brief stay in the country will all drive back to the city? I like their scenario, but what if it doesn't turn out that way, and the winter do come.

There are a few lines in the study, acknowledging the possibility of resettlement, but dismisses the subject by saying such is covered in separate research. I don't believe you can separate the two. Resettlement is a direct extension of relocation and the preparations for resettlement must be made prior to, or concurrently with relocation. The study for California relocation seems realistic in most instances, but it is ignoring the effect resettlement preparations will have on relocation.

The California study considers food requirements to support the relocated population, production, processing and transportation. The study also considers the extra food needed to stock the fallout shelter in the host areas. Such requires a number of trucks and workers for a period of 2 or more weeks. The study even takes into account construction and other supplies, but the study does not consider manpower, transport and additional highway congestion that would arise if food and other essential supplies were moved to safety as a reserve supply to support the population after they emerge from the fallout shelter.

A large amount of money has been spent by the government in researching the problems of recovery after attack. I have been able to obtain 2 pieces of literature on the subject, and tho some solutions are given, both primarily deal with problems rather than specific corrective action. The studies recognize that tho sufficient food stocks will survive, there may be problems in moving the food to where the people are. Here a delay is involved and a critical factor for an area such as California.

If there is sufficient food, and this has yet to be proven, how far away is it, how fast can it be moved (if it can be moved) and how

many people must be fed. Here again, being realistic about the length of the recovery period, would it be easier to move the people to the food than moving the food to the people. How long will food have to be moved before those being fed can sustain themselves without outside help. Is it even feasible for those being fed to become self sufficient?

Disregarding other nutritional requirements, a pound of butter or margarine will provide enough calories to support a person for one day. Now a pound of food a day is not realistic, lets say 2 lbs, or 2 lbs per person per day. That's 1 ton of food for each thousand people, per day. In 75 days, $2\frac{1}{2}$ months, a 150 lb person will have eaten his weight in food.

Over a long period, and I don't think recovery can be counted in months, the only logical action is to move people rather than food, and this must start on day 1. At least some survivors should be capable of walking. Even if they only make 10 miles a day, that's 10 miles less the food for that group has to be carried. If food is delivered by truck or train, the transport should return hauling people.

Such suggestions are of course contingent on there being fuel to transport food or people, and without the stockpiling there will be very little transport until surviving normal supplies can be located. In the latter case, will the quantities of surviving fuel be sufficient to meet even the immediate needs. There are about 20 million people in California, and if the state cannot return to normal in a week or 2, a good portion of this number will have to be fed, or transported out of the state. This might at least be partially prevented by recovery stockpiling.

The two pieces of recovery literature I've gone thru seem to be based on the idea we will be returning to the cities. In my opinion, at least the larger cities are going to remain empty for a long time, and some may never be reoccupied. Others may never regain their original populations.

DISASTER PROGRAM

Original program after WWII relied on evacuations

1. May remember the signs
2. B.C. comment on S.F.
3. Registration forms

Shelter program.

1. Stunned private, but little reaction. Same on property tax
2. Large amount spent on finding public shelters
 - a. Shelter stocked, including Douglas
 - b. No info on what to do when you came out. Writers arranging all then back to normal
 - c. No consideration of natural disasters
 - d. No consideration for refugees from fringe areas.

1968 CD book on fallout. Seems to have discarded the concept of fallout

11-75 Pratt, Ann E director: CD program underfunded, understaffed and poorly planned. Budget cuts. Russia spends \$4 per capita, we 3¢. People would ignore signs. Poorly planned broadcast setup

At Sylvania, people were told leave, but not where go. Only 12 of 80,000 reached emergency care centers. Police kept people moving aimlessly. Interest in CD dropped off in early 60's. Now Office of Emergency Planning

7-76 Geo. Robertson in IPT: L.B. has underground control center on Spring st east of Redondo. An abandoned Nike missile site 18' below ground. Was food and water for 200 for 2 wks. Communications, independent power. People have forgotten the shelter program. Don't know where nearest is.

11-76 Times Article: Two U.S. agencies working on evacuation plans. John Davis, head of OCPA, plan completed by mid 1980's. The Russian still working on, U.S. has given up early shelter plans. Mentions Russian spends much more on CD than we do. Both sides will make security in an exchange, but Russian might consider nuclear if they can save greater percentage than U.S. They figure could hold lower to 6-8%

Mr. Weather in Virginia plan 4 747's for top people. If Russian put their plan into effect, in 72 hours our people would be moved. N.Y.

and L.A. problem areas. So Cal to San Joaquin or Las Vegas area.
Mention bridge drink fenders, which last almost forever are inflicting financial
disaster strikes. Industry should try to evacuate its work force. Best
defense is to be somewhere else. BACK TO EVACUATION

1977 Article: No national disaster program. Nothing at State and
local level. No heavy rescue training programs. Unable to cope
with such as earthquake.

4-77 Nat. Inq. DCPA: Plan to evacuate 135,000,000 for up to 3
weeks, to save 180 million lives. If do nothing, will lose 80 of
215 million. Eight evacuation plans already developed, but not all impl.

Plans for evacuation started by Pentagon in 1974 after learned
Russians were doing. Total planning completed by 1983 if go ahead funds.
No plan, we lose 30 to 40 for every Russian.

10-77 Times: New England CO officials plan New Hampshire, Vermont and
Maine into sanctuary area. Figure 5 refugees for every local. Housed
in public and commercial and church structures. Move in on paper by 1979.

5-78 Times: Britain expects high officials to be wiped out. Plan to transfer
power to local officials. Expect to lose a majority of population.

1-79 The article you've been given.

Reorganization Plan #3 implemented by April 1, 1979
Will include national disaster planning
Industry will play a part. (See back of page.)

Low priority put on city's fallout shelters

By Lynn Sprenger
Staff Writer

Good advice for those who duck into a fallout shelter during a nuclear attack: don't arrive empty-handed.

The designated shelters in Long Beach lack the sort of provisions that would make a stay in them tolerable while the dust settles — things like clean water, edible food and usable medical supplies.

Whatever boxes, cans and crates remain stored away contain stock that is almost all outdated.

Not that there seems to be any imminent danger of a nuclear attack, but there's another problem with the shelters, too: finding them in the first place. The agency in charge of them — the Long Beach Fire Department's Bureau of Emergency Preparedness — doesn't have an updated list of their locations, let alone what is in them, according to Deputy Chief Ben Souders, director of the bureau.

Some have been destroyed or closed, as with a number of buildings affected by downtown redevelopment. Others are no longer marked by the familiar yellow and black "Fallout Shelter" signs.

The fire department conducted its last survey of the shelters more than a year and a half ago, Souders said. It doesn't seem likely that the city will pay for another survey or re-provisioning, as is typical of cities across the country. Civil defense is simply not the priority it was in the early '60s when the Cuban missile crisis lent more urgency to efforts to identify and stock fallout shelters.

"The (federal) government has chosen to devalue the worth of the shelter program," Souders said. "If you read the government circulars, they say, 'Yeah, you should have fallout shelters,'

but they expect local governments to pick up the tab for restocking them. It's a very expensive proposition."

Part of the federal government's loss of interest in fallout shelters is due to the advent of more sophisticated nuclear weapons. Most fallout shelters would not withstand the heat and blast generated by the new nuclear arms.

"'Fallout shelter' means exactly that — they protect you from fallout, not blast," Souders said.

EVEN IF FALLOUT were the main danger in a nuclear attack, the shelters would be a less than ideal refuge. "All over the country they were stocked in '62 and '63, some later, and supplies have disintegrated," Souders said.

"All-Purpose Survival Crackers" are rancid. Water evaporated or went bad. Sterile bandages probably aren't sterile, paper sheets are easily ripped, dated items are spoiled.

A roll of adhesive tape marked "August 27, 1952" was among the supplies cleared out from a Long Beach junior high school in June. "It took a two-and-a-half ton truck to move the stuff and most of it's going to be dumped," Souders said.

"The only things that are still good are some metal items, like scissors, paper clips and safety pins, and that's typical of most of the supplies in Long Beach."

The fire department picks up medical supplies from shelters to see what may still be used by the city's paramedics, but not anything else.

"We don't have the people or the time to collect all the supplies in the city," Souders stated. "If we get a call from someone who says water leaked over a shelter and he's got a bunch of crackers down there and they're bad, we just tell him to throw them away."

The Emergency Preparedness staff is limited to a medical coordinator, a clerk-typist, and Souders, who also works half the time as deputy chief of administration for the fire department.

THE BUREAU receives only one or two calls a week from people asking where the nearest fallout shelter is. Twice a year, a flock of calls come from children fulfilling a school assignment. There is no educational program to indoctrinate citizens on civil defense.

"By and large, people (who call) are more interested in survival in an earthquake," Souders said. His staff works in the Emergency Operating Center, which is a headquarters for relief activities for natural and man-caused disasters. "Most people push the nuclear attack question in the back of their minds, or figure they'll die away if it happens."

For those who don't, Souders advised two things in event of a nuclear attack. People should make sure their chosen fallout shelters are open; commercial buildings will likely be locked up if a war starts during nonbusiness hours. They should also have a box of emergency supplies ready to go, including a medical kit, canned food, water, flashlight and battery-operated radio.

An informal survey of people in the downtown area, which is full of fallout shelters, showed about half the people didn't know where they would go if a nuclear attack were about to take place, hadn't thought about it, or just figured they would die in such a case anyway.

Only two people mentioned going to a fallout shelter, although there are a number of the yellow and black signs in front of downtown stores. The remainder thought they would find a cellar or some other place.

"I'd hide," said Navy Taboa of Long Beach. "Where? Any hole I could find."

"See's Candy," said Sandy Schildmeyer of Westminster, a slender young woman. "If I'm going to go, I might as well be eating."

"To the bank — to get my money out," said one man, rushing into a bank.

"I probably wouldn't go anywhere. I'd just burn with 'em all. Where can you run?" asked Edward Mountain of Long Beach, N.Y.

Department of Defense study shows a blast shelter system could cost more than \$60 billion. Alternative is crisis relocation planning.

WITH THE current fallout shelter situation in the country, a 1977 Department of Defense Study concluded only 30 to 40 percent of the total population would survive a heavy nuclear attack, according to an April 1979 information bulletin by the Defense Civil Preparedness Agency.

This is because approximately two-thirds of the population "live in possible risk areas — places that could suffer the blast and heat effects of nuclear weapons," the bulletin noted. Most fallout shelters offer little or no protection from these effects.

A blast shelter system could cost more than \$60 billion, the Department of Defense study estimated. The alternative is crisis relocation planning. This is a much less expensive but more uncertain means of civil defense, particularly regarding the time element involved.

The plans assume there will be a week or more for evacuations, although critics note that Soviet missiles would reach American targets in less than 30 minutes. Others insist any such attack would probably follow an obvious buildup of nuclear arms.

For a good but not perfect relocation — where four-fifths of those in risk areas leave and find fallout protection in most areas — the study estimated a 30 percent survival rate.

Crisis relocation planning for California began last November, said Loren Fields, chief of the Nu-

clear Civil Protection Division of the state Office of Emergency Services in Sacramento.

The current level of funding for it by the federal government is low — \$348,000 this fiscal year for California, Fields said. It's anticipated that it will take about eight years to complete the plans for all areas in the state, given the present funding level.

SO FAR ONLY Merced County and the Riverside-San Bernardino area have been included in the planning because they contain military installations assumed to be principle targets in a war, Fields said.

Planning for an evacuation of Los Angeles and Orange counties will take the most time to complete, he said, due to a myriad of complications associated with trying to move the millions living in these areas.

"We haven't yet divided the Los Angeles Basin into who would go where," Fields said, "but parts of the harbor area — including Long Beach and Huntington Beach — would be primarily going to eastern San Diego and Imperial counties probably."

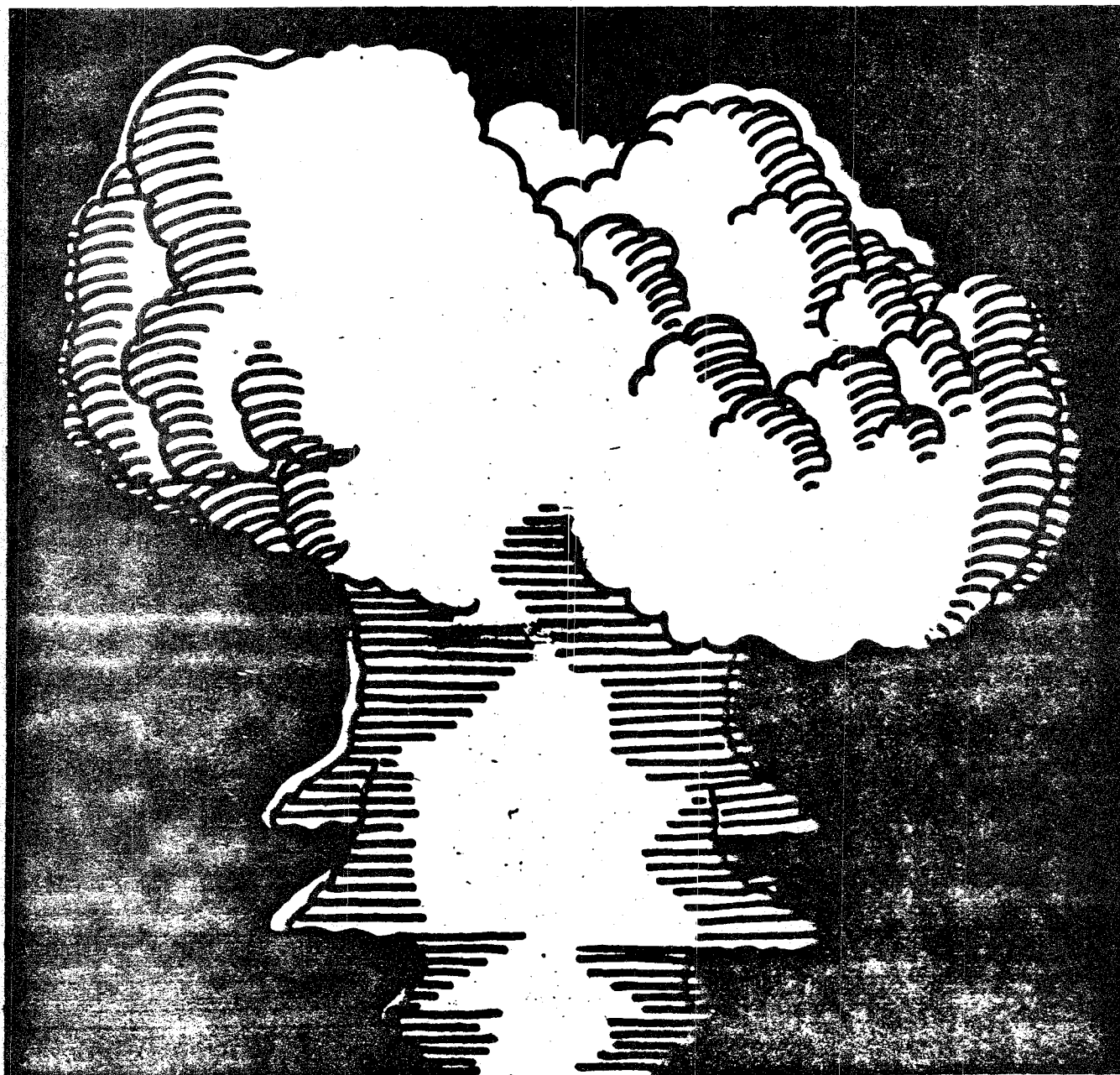
If crisis relocation planning hasn't been completed and there is a nuclear attack, only one out of five fallout shelters in Los Angeles County will provide even minimal blast protection, Fields said.

And, as in Long Beach, supplies that still exist in California shelters have exceeded their original shelf life, "so you can assume that virtually all of it has little value," he said.

It may not matter, though. "A nuclear attack?" one pedestrian said, rushing by. "I hadn't even thought about it. It's not going to happen."

RISK AREA RELOCATION

CRISIS INFORMATION FOR SURVIVAL

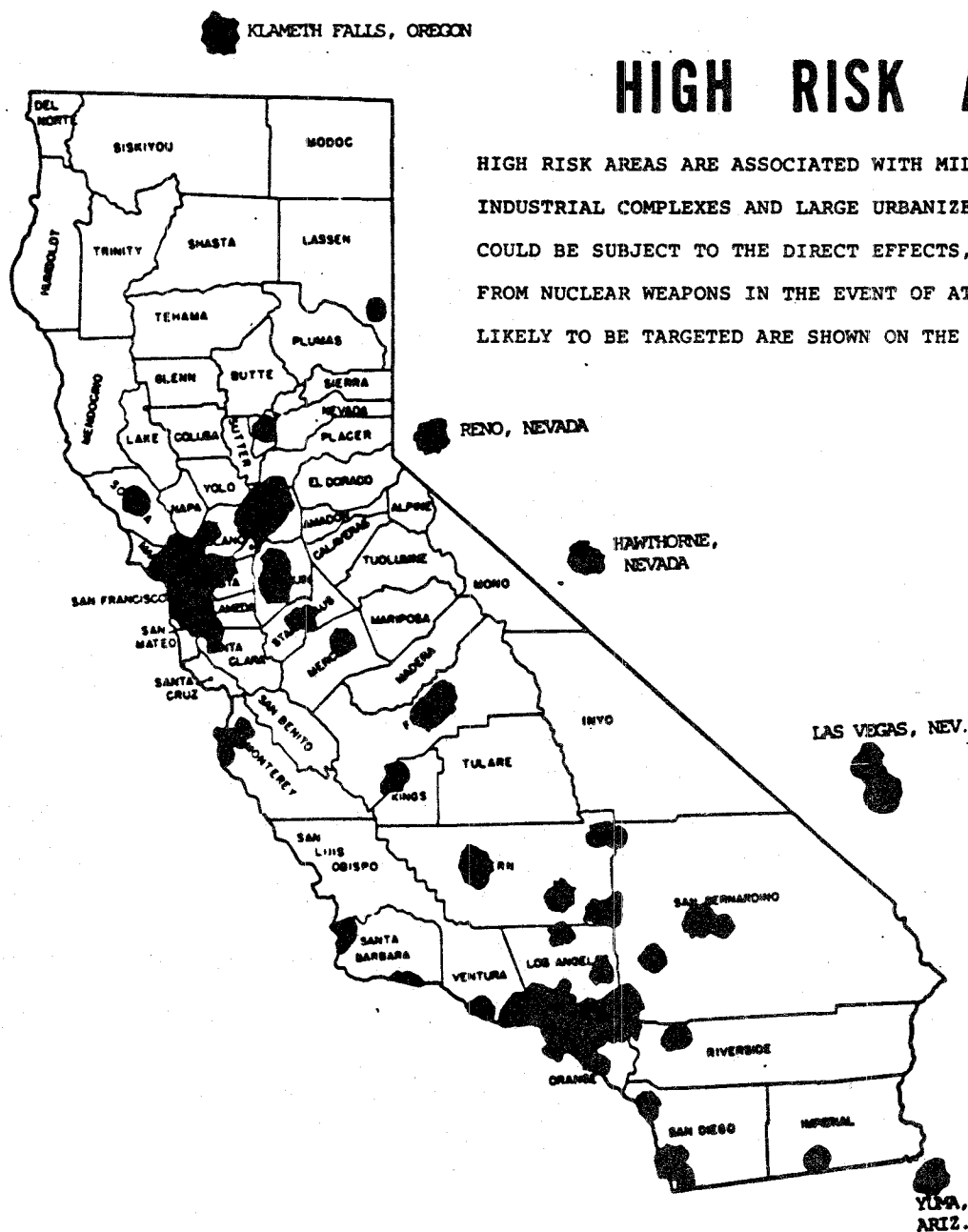


FILE # 311

DDRT 3-82

PRESIDENT ADVISES RELOCATION

DUE TO THE WORSENING INTERNATIONAL SITUATION, THE PRESIDENT HAS ADVISED THAT RESIDENTS OF HIGH RISK AREAS RELOCATE TO AREAS OF LESSER RISK.



ADDITIONAL EMERGENCY PUBLIC INFORMATION BEING RELEASED BY LOCAL GOVERNMENTS WILL PROVIDE MORE DETAILED INFORMATION FOR YOUR AREA.

STATE ACTIONS

IN RESPONSE TO THE PRESIDENT'S REQUEST, THE GOVERNOR HAS ORDERED THE STATE'S CRISIS RELOCATION PLANS TO BE IMPLEMENTED. THESE PLANS PROVIDE FOR THE MOVEMENT OF RISK AREA RESIDENTS TO PREDESIGNATED HOST AREAS, FOR THE CONGREGATE CARE OF THE DISPLACED PERSONS, AND FOR THE REDISTRIBUTION OF CRITICAL SUPPLIES AND PROVISIONS. LOCAL AND STATE AUTHORITIES ARE MOVING QUICKLY TO REDIRECT THEIR EFFORTS TOWARD ACTIVATION AND EXECUTION OF PLANS PREPARED IN ADVANCE FOR JUST THIS EVENTUALITY.

IF YOU ARE A PUBLIC SAFETY EMPLOYEE OR A KEY WORKER IN AN ESSENTIAL INDUSTRY, CHECK WITH YOUR EMPLOYER FOR ANY SPECIAL ASSIGNMENT NECESSARY TO SUPPORT CRISIS RELOCATION.

THINGS YOU NEED TO KNOW ABOUT CRISIS RELOCATION

HOW LONG THE RELOCATION PERIOD WILL LAST IS UNKNOWN AS ARE THE SPECIFICS OF A POSSIBLE NUCLEAR ATTACK. THE NEED TO CONTINUE RELOCATION OPERATIONS MAY EXTEND FROM ONE TO SEVERAL WEEKS. THERE IS ALSO THE POSSIBILITY THAT SHOULD WAR OCCUR, YOUR HOME COULD BE DESTROYED. BUT ISN'T IT BETTER THAT YOU ARE NOT THERE SHOULD IT HAPPEN.

THERE IS NO CERTAINTY ABOUT THE POSSIBILITY OF ATTACK OR WHEN IT MAY COME. RISK AREA RESIDENTS SHOULD TAKE THE TIME NECESSARY TO PULL TOGETHER THEIR FAMILY MEMBERS AND TO ASSEMBLE THOSE THINGS NECESSARY FOR THEIR COMFORT IN THE HOST AREAS.

ACCOMMODATIONS IN THE HOST AREA WILL BE MEAGER. ALL TYPES OF BUILDINGS MUST BE USED TO HOUSE PEOPLE. TAKING A FEW MOMENTS NOW TO TAKE YOUR OWN COMFORT ITEMS WILL PAY OFF LATER.

IF YOU HAVE YOUR OWN TRANSPORTATION, TAKE WHAT CANNED OR PACKAGED FOOD YOU HAVE ON HAND WITH YOU. IT WILL BE USEFUL UNTIL THE FOOD DISTRIBUTION SYSTEMS CAN BE REDIRECTED. DO NOT WASTE TIME GOING TO THE STORE FOR MORE. TAKE ONLY WHAT YOU HAVE AVAILABLE AND DON'T OVERLOAD YOUR VEHICLE DANGEROUSLY.

MORE THINGS YOU NEED TO KNOW ABOUT CRISIS RELOCATION

IF YOU DO NOT HAVE YOUR OWN TRANSPORTATION, BUSES WILL BE PROVIDED. THESE BUSES WILL LOAD AT SELECTED SCHOOLS IN YOUR AREA. LISTEN TO YOUR LOCAL RADIO AND TV STATIONS FOR DETAILS.

DO NOT WASTE TIME TRYING TO DRAW OUT MONEY FROM YOUR BANK OR OTHER FINANCIAL INSTITUTIONS. THEY ARE NOW SUBJECT TO FEDERAL CONTROLS AND MANY WILL BE CLOSED OR LIMITING TRANSACTIONS. BASIC ESSENTIALS SUCH AS FOOD WILL BE PROVIDED IN THE HOST AREAS WITHOUT COST TO YOU.

IF YOU OWN A VACATION CABIN OR HAVE RELATIVES OR FRIENDS WHO LIVE OUTSIDE A RISK AREA, YOU MAY BE ABLE TO GO THERE. HOWEVER, TRAFFIC CONGESTION MAY BE SUCH THAT THIS COULD BE IMPRACTICAL. IN ANY EVENT, COOPERATE WITH TRAFFIC CONTROL OFFICIALS.

PUBLIC SAFETY PERSONNEL, COMMUTING FROM NEARBY HOST AREAS, WILL PROTECT YOUR PROPERTY IN YOUR ABSENCE. UNLESS WAR COMES, YOUR POSSESSIONS SHOULD BE WAITING FOR YOU WHEN WE ARE ADVISED THAT IT IS SAFE TO RETURN.

PLEASE COOPERATE WITH YOUR LOCAL OFFICIALS, PARTICULARLY THOSE CONCERNED WITH TRAFFIC CONTROL. THEY ARE THERE TO HELP MAKE THE BEST USE OF OUR EXISTING ROADS AND HIGHWAYS. TRAFFIC CONGESTION CAN BE EXPECTED. BE PATIENT AND COOPERATIVE.

WHEN YOU REACH A HOST AREA, YOU WILL BE DIRECTED OFF THE HIGHWAY TO A RECEPTION AND REGISTRATION CENTER. THERE YOU WILL BE ASSIGNED TO A CONGREGATE CARE AND FEEDING FACILITY.

WHEN YOU ARE REGISTERED IN THE HOST AREA, YOU WILL BE ASKED TO IDENTIFY ANY SPECIAL SKILLS YOU HAVE WHICH WILL BE USEFUL. THERE IS MUCH TO BE DONE AND EVERYONE MUST HELP.

ALTHOUGH THE HOST AREAS SHOULD BE OUTSIDE THE RANGE OF DIRECT WEAPONS EFFECTS, THERE IS STILL THE POSSIBILITY OF RADIO-ACTIVE FALLOUT. HOST AREAS ARE TYPICALLY SHORT ON FALLOUT SHELTER SPACE. THEREFORE, ALL ABLE-BODIED PERSONS NOT OTHERWISE ASSIGNED TO ESSENTIAL DUTIES MUST ASSIST IN THE DEVELOPMENT OF EXPEDIENT FALLOUT SHELTER.

DO NOT ATTEMPT TO RETURN HOME UNTIL ADVISED BY COMPETENT AUTHORITY THAT IT IS SAFE TO DO SO.

WE CAN ALL EXPECT THAT THIS PRUDENT RELOCATION OF PEOPLE FROM HIGH RISK AREAS WILL BE ONE OF TRIAL AND TRIBULATION. EVERYONE MUST COOPERATE AND SHARE. BE KIND TO EACH OTHER. WE ALL HAVE MUCH IN COMMON DURING THIS TIME OF CRISIS. IF EACH DOES HIS SHARE AND ALL PULL TOGETHER, WE WILL BE A STRONGER PEOPLE COME WHAT WILL.

THINGS TO DO NOW

HERE ARE SOME KEY THINGS FOR YOU TO DO NOW, TO BETTER PREPARE YOU AND YOUR FAMILY:

1. CHECK TO SEE IF YOU LIVE IN A RISK AREA. IF SO, PREPARE TO LEAVE. IF YOU LIVE OUTSIDE THE RISK AREAS, PREPARE TO ASSIST THOSE RELOCATING TO YOUR COMMUNITY.
2. STAY TUNED TO YOUR LOCAL TV OR RADIO STATION FOR INFORMATION AND INSTRUCTIONS.
3. OBTAIN A COPY OF THE LOCAL EMERGENCY INSTRUCTIONS FOR YOUR AREA. READ THESE INSTRUCTIONS CAREFULLY, DISCUSS THEM WITH YOUR FAMILY, AND ACT ON THEM IMMEDIATELY.
4. IF YOU NEED PRESCRIPTION MEDICINE OR ARE ON A SPECIAL DIET, CHECK TO SEE IF YOU HAVE AN AMPLE SUPPLY.
5. IF YOU HAVE NEED TO USE YOUR CAR, BE SURE YOU HAVE A FULL TANK OF GAS.
6. ASSEMBLE TOOLS--ESPECIALLY SHOVELS, PICKS, HAMMERS. THESE MAY BE NEEDED TO BUILD EXPEDIENT FALLOUT SHELTER.
7. COLLECT ALL OF YOUR VALUABLE PAPERS AND WRAP THEM UP (PREFERABLY IN PLASTIC) AND PUT THEM IN A METAL CONTAINER (TOOL BOX, FISHING TACKLE BOX, ETC.) AND KEEP THEM WITH YOU.
8. STAY CALM. PANIC KILLS. FOLLOW THE INSTRUCTIONS GIVEN YOU BY LOCAL AUTHORITIES.

RELOCATION

EVACUATION

RADIO ANNOUNCEMENT

EMERGENCY INFORMATION

TO SURVIVE NUCLEAR ATTACK

Here is important information that can help save your life in the event of nuclear attack.

If you live in a high risk area and are warned to relocate to another locale temporarily, there are certain things to remember to do:

FOLLOW THE INSTRUCTIONS AND ADVICE OF YOUR LOCAL GOVERNMENT.

If you are instructed to move to a certain specific area or location, go there; don't go anywhere else.

Certain travel routes may be specified or recommended. Use those routes rather than trying to find shortcuts of your own. (It will help you to have previously become familiar with the routes likely to be used.)

You may be told to shut off your water, gas, or electric service before leaving home. Know how to turn them off at their source. Disconnect all appliances, draw the drapes, close all windows, and lock all doors.

Make sure you have enough fuel in your car.

As you travel, keep listening to local radio stations for additional information and instructions.



KLAMETH FALLS, OREGON



NATIONAL ENQUIRER 4-19-77

Pentagon Plans to Evacuate 135 Million Americans If There's Nuclear War

The Pentagon is developing a "Doomsday" plan to evacuate 135 million Americans from 400 key target areas in the event of nuclear war.

Under the plan, Americans would use private transportation to relocate to "safe areas" from 20 to 150 miles away from their homes, and would seek shelter in public buildings — schools, hospitals, libraries, etc.

Food supplies would be diverted to the "host" areas and emergency medical services would be provided. Evacuees would live in the host areas for up to three weeks after a nuclear attack, The ENQUIRER learned.

Seymour Wengrovitz, staff director of the Plans and Systems Development Division of the Defense Civil Preparedness Agency in the Pentagon, told The ENQUIRER that the plan could save 100 million lives.

"If we do nothing, 80 million people will survive a nuclear attack, out of our present population of around 215 million," Wengrovitz said. "With good civil defense measures — with people using shelters and knowing what to do — we could save

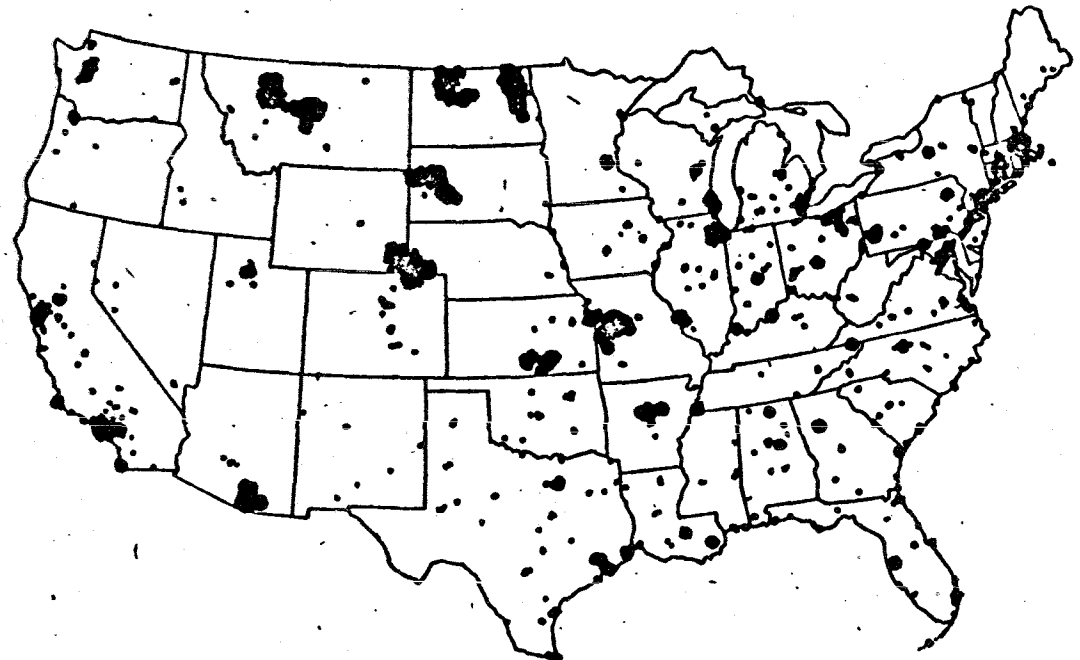
By PAUL BANNISTER

another 30 million lives. But with good relocation planning, you can save still a further 70 million lives, or a total of 180 million people."

So far, evacuation plans have been developed for eight prototype areas of the nation: Utica/Rome, N.Y.; Dover, Del.; Macon, Ga.; Duluth, Minn.; Oklahoma City; Colorado Springs; Tucson, Ariz.; and Great Falls, Mont.

The Pentagon got started on the evacuation plan in 1974 after military experts learned of the Soviet Union's plans for mass relocations of population centers.

"Now, with Russia having an evacuation policy, should a nuclear exchange take place with the Russians evacuating their cities and the U.S. not evacuating any of their popu-



HIGH RISK AREAS in the event of nuclear attack, according to experts, are marked in black. There are 400 such areas on this map of the United States developed by the Defense Civil Preparedness Agency, inside the Pentagon.

lation, the U.S. would be at an extreme disadvantage in terms of population losses," Wengrovitz said.

One military expert, Maj. Gen. George J. Keegan, a for-

mer bomber pilot who rose to become the Air Force's intelligence boss from March 1972 to January 1977, said that if nuclear war erupted today 30 to 40 Americans would be kill-

ed for every Russian killed. Wengrovitz said, if funds are increased as expected, the mass evacuation plan could be completed for the entire nation by 1983 instead of 1989.



Seymour Wengrovitz

California
Movement Flow Patterns
and
County Allocations
(in thousands)

CRISIS RELOCATION

California
Movement Flow Patterns
and
County Allocations
(in thousands)

Revised 1/81

The map displays the following county allocations (in thousands):

- DEL NORTE: 28
- SISKIYOU: 74
- HUMBOLDT: 184
- TRINITY: 21
- SHASTA: 188
- YOSEMITE: 65
- GLIEM: 36
- COLUSA: 11
- YUBA: 34
- SIERRA: 8
- NEVADA: 86
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COMMITTEE ON
GOVERNMENT OPERATIONS

COMMITTEE ON
VETERANS' AFFAIRS

Congress of the United States
House of Representatives
Washington, D.C. 20515

WAYNE GRISHAM
33RD DISTRICT, CALIFORNIA

January 12, 1981

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TRAVELS THE DISTRICT
TO SERVE YOU

Mr. Clarence C. Baal, Jr.
9051 Via Amorita Avenue
Downey, California 90241

Dear Mr. Baal:

This is in further response to your letter of November 19, 1980, concerning civil defense planning in the United States. As you know, I had written to the Federal Emergency Management Agency (FEMA) in connection with your concerns.

It is a pleasure to enclose the response I have received from the agency. Please note that efforts are currently underway in the areas of CRP (Crisis Relocation Plans) development, as well as interim planning.

You will also note that during the 1960's, the Office of Emergency Preparedness provided full federal funding for recovery planning. However, funding for civil defense programs has been limited since then, and post-attack recovery has not been the subject of much attention.

Of course, the responsibility for authorizing and appropriating funds for civil defense purposes rests with the Congress. I have, therefore, written to the Chairman of the Committee on Armed Services of the House of Representatives, the Honorable Melvin Price. I have apprised him of your views, and requested his comments relative to the work we may expect of the committee in this area during the 97th Congress. I will, of course, be happy to share his views and comments with you as soon as I have received his response.

With best wishes,

Sincerely,

Wayne Grisham
Wayne Grisham

Member of Congress

WG:JAA
Enclosures



Fri., Dec. 19, 1980

Civil Defense preparations felt 'deplorable'

By Jack Anderson

WASHINGTON — Ronald Reagan's vice president-elect, George Bush, asserted during the primary campaign that a nuclear war was in fact winnable. But the government agency most directly responsible for safeguarding the American populace from a nuclear holocaust emphatically disagrees.

The underfunded, overlooked federal Emergency Management Agency is charged with protection of the American people in the event that Soviet nuclear bombs start raining down on the continental United States. But a confidential FEMA report — prepared under contact by the National Governors' Association — makes clear that our preparations for civil defense can be summed up in one word: deplorable.

Indeed, Defense Department assessments cited in the FEMA report estimate that, in our present state of civil defense disarray, "some 160 million people would be killed by an attack." The Pentagon didn't even try to guess what additional injuries would be sustained by those who survived an enemy nuclear strike.

Meanwhile, of course, our intelligence agencies report that the Soviet Union has intensified its efforts in recent years to improve its civil defense program. And as FEMA has learned in its unsuccessful efforts to get support for its programs, critics insist that an adequate civil defense setup can lead the military to think the unthinkable — that nuclear war is a reasonable option.

"There is a general overestimation by the American public about national civil defense planning and funding." The FEMA report states, adding: "National policy has been equivocal, and guidance from the federal level has been negligible."

In particular, the document discloses an appalling lack of cooperation between Washington and the 50 state governments, which are ultimately responsible for the safety of the public in a nuclear attack.

"Governors and citizens trust that the federal government is planning for the major programs dealing with an attack," the secret report notes, adding bluntly: "That is a delusion."

Here are some of the basic problems perceived by the civil defense agency:

- Population relocation. The primary method envisioned so far by our planners to save lives in case of enemy attack is the movement of huge numbers of people from target areas — what FEMA calls "Crisis Relocation Planning." The trouble is that many of the state officials who would have to carry out this logistical nightmare have concluded simply that it won't work.

- Communications. "Governors in general do not know how they will be notified if an attack is imminent," the report states. "Will there be individual telephone calls from the president? From the Department of Defense? From FEMA?" Many governors don't even have the security clearance that would entitle them to the latest intelligence estimates. They might — like ordinary citizens — have to depend on the media for their information.

- "Continuity of leadership." Preparation of self-sufficient emergency centers for local and national leaders is viewed as a necessity by the civil defense planners. There are thousands of these "emergency operating centers" now in existence, dating back to the days following the Cuban missile crisis in 1962. These centers should be blast-resistant and equipped with reliable communications systems. But the FEMA report found that most of these centers are in pitiful condition, and would be useless in the event of nuclear attack.



FEDERAL EMERGENCY MANAGEMENT AGENCY

Washington D.C. 20472

JAN 6 1981

Honorable Wayne Grisham
House of Representatives
Washington, D.C. 20515

Dear Mr. Grisham:

This is in response to your letter of December 5, 1980 on behalf of Mr. Clarence Baal, pertaining to civil defense planning in the United States.

We agree with Mr. Baal's contention that "paper" plans (i.e., various types of disaster and nuclear operations plans) are not very effective unless they are supported by operational systems having effective equipment, personnel and resources to implement the plans (e.g., Emergency Operating Center with emergency generator, adequate communications to receive warning and transmit information and guidance, equipment to respond to emergencies, etc.) and then testing and exercising the plans on a continuing basis. We in civil defense intend not only to develop the plans, but to insure that an operational system of personnel and resources is readily available to implement the plans so that the full lifesaving potential of the plans can be achieved.

The development of Crisis Relocation Plans (CRP's) is a time-consuming effort. Virtually all planning is accomplished by State planners under contract to the Federal Government. Not only do these plans call for moving people from high risk areas to host areas, they also take into account the reception and care of evacuees in host areas. For example, they identify the facilities that are to be used for congregate care housing, how evacuees are to be fed, and how fall-out protection is to be provided. Incorporating these details into the CRP is why such planning is so time consuming. As of September 30, 1980, plans have been completed for 16 percent of the localities needing them (i.e., 534 locations have complete CRP's).

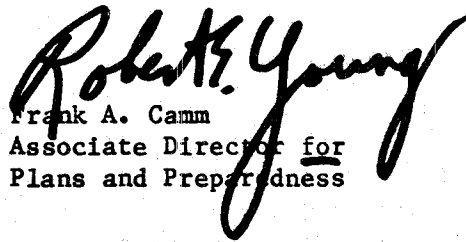
We also agree with Mr. Baal that there is a need for "some interim plans." In addition to developing the full-scale CRP's noted above, we have directed that State and local government Emergency Management Assistance (formerly Personnel & Administrative personnel, receiving matching funds from the Federal Government to implement a civil defense program) get involved in a program to develop "mini-CRP's." These mini-plans contain several of the most important portions of a full-scale CRP but are not as time consuming to prepare. When completed, they provide a rudimentary relocation capability which has some lifesaving potential. We expect that by the end of Fiscal Year 1982, all areas requiring CRP's will be covered either by a full-scale or a mini-plan.

In the mid-1960's, the Office of Emergency Preparedness (a predecessor Agency to FEMA) provided full Federal funding for recovery plans (i.e., development of Emergency Resource Management Plans). California has such a plan although

it may not have been updated recently. Since then, due to the limited funding that has been available for implementing a civil defense program, our Agency and its predecessors have not been able to devote much effort to postattack recovery. We have concentrated our efforts primarily on those programs which have significant lifesaving potential and which can be implemented in the preattack phase. Should additional funding be made available for emergency preparedness, updating Emergency Resource Management Plans would be an important area of activity. I am enclosing a copy of a research report on recovery from nuclear attack which may be of interest to Mr. Baal.

I trust that the above information is responsive to Mr. Baal's concerns.

Sincerely yours,


Frank A. Camm
Associate Director for
Plans and Preparedness

Enclosure

DOUGLAS AIRCRAFT COMPANY

3855 Lakewood Boulevard Long Beach, California 90845

DISASTER CONTROL RECOVERY TEAM

Mail Code 7-25

July 20, 1981

Mr. Loren Fields, Chief
Nuclear Civil Protection Division
California Office of Emergency Services
PO Box 9577
Sacramento, California, 95823

Dear Mr. Fields:

A few months ago you were kind enough to send me copies of the 1968 Emergency Resources Management plan, and Parts 3 and 4 of the California Emergency Plan. (Think I already had Part 3) I have managed to wade Through all three, and have some questions.

As I understand, the 1968 plan is still in effect, except where specifically changed by the present plan.

What do parts 1 and 2 of the California Emergency Plan cover?

Part 4 of the Emergency Plan covers food allowances for the public in a crisis situation, but daily calories aren't specified. I'm assuming the 2000 to 2500 per day of the 1968 plan still apply as the same lists are used. With this as a basis, I've run a calorie count using both average or better, and high count foods that meet the criteria. On the high count, the best I could get was 2374, with 1783 on the average or better.

From what I understand of CRP, evacuees will be assigned to upgrading tasks, much of it manual labor. Can manual labor be performed on this calorie count?

The diet for the period while in the fallout shelters is described as "austere." No calorie count is given, but hopefully it will be more realistic than the 714 calories for public shelters in the 60's. I might also add that in the same period, the USDA was recommending 2000 calories for home shelters.

Part 4, Section 2, Attachment 1, lists hosting ratios as low as 2-1, quite a drop from the 7-1 for uniform hosting. Saw no figures showing other areas with high ratios, or even listings as high as 7-1. Is this because fewer people will be moved? I notice the risk population has dropped from 85% to 80%. Has the increase in our population been considered?

MCDONNELL DOUGLAS

CORPORATION

I have noted the changes in routing which help to eliminate the problem of the bottlenecks north of the Los Angeles Basin, but still have a question about the statement that essential workers will be hosted within 50 miles, and those without transportation of their own, within 75 miles. Where are the host areas in Los Angeles and Orange counties?

Part 4, Section 4, Annex 6 mentions packaged disaster hospitals. Do we still have these units? I have understood they were done away with some years ago.

What is the expected completion date of CRP? When the plans have been completed, how long will it take to train the people who will be expected to carry out the plan if it is needed?

I understand a partial plan will be in effect before the completion of CRP. When will this mini-plan be ready?

May I make a constructive suggestion? I'm confused about some of the duplicate pages I have for the Emergency Plan. I know they are revisions, but am not sure which is the latest. Would it be possible to date the pages?

Yours truly,

Clarence C. Baal Jr.

Clarence C. Baal Jr.
Instructor

OFFICE OF EMERGENCY SERVICES

POST OFFICE BOX 9577

ACRAMENTO, CALIFORNIA 95823

(916) ~~427-4990~~ 427-4205

February 3, 1982

Mr. C. C. Baal, Jr., Instructor
Disaster Control Recovery Team
Mail Code 7-25
Douglas Aircraft Company
3855 Lakewood Boulevard
Long Beach, CA 90846

Dear Mr. Baal:

The following is in response to your letter of January 17 regarding crisis relocation and is presented in the same general order of sequence as your questions.


1. Since the information needed to develop crisis relocation (CR) plans is extensive, I really don't know how to express status as a percentage. One basic input is the host area survey data provided by Corps of Engineers. To date 21 counties have been surveyed with 12 more scheduled for this fiscal year. All host area surveys are to be completed by 1984 but some pick-up work is scheduled through 1987. Also see #2 below.
2. The initial plans have been accomplished for Riverside, San Bernardino, Merced, Sacramento, and Yuba Counties. Copies of these plans have been provided to those counties. Fifteen additional counties are scheduled for completion this year. This includes Imperial and San Diego Counties in Southern California.
3. Self-developed mini-CR plans have been prepared by 19 counties not yet covered by the OES/FEMA planning contract. These plans vary considerably in their scope, content and detail. They all provide some basis for emergency augmentation or future expansion under the OES/FEMA contract effort. The cities and counties in Los Angeles, Orange and Ventura have yet to accomplish such planning, pending deliberations currently in progress.
4. The crackers provided in the original fallout shelter supplies were prepared using lard for shortening. This

February 3, 1982

eventually produced a rancid taste, particularly in supplies stored in hot and/or damp facilities. Many persons found the smell and taste objectionable although the crackers were still nutritious. Many were given to foreign aid agencies who found them fully acceptable in countries such as India. Some were also used as cattle and hog feed here in this country. Basically these items have exceeded their expected shelf life and have or are being disposed of as the holding jurisdiction sees fit. There is currently no federal plan to replace these stocks. Persons using identified public shelters would need to provide their own food items from sources available to them.

5. Enclosed are two documents related to Nuclear Reactor Planning which may be of value to you.

Best Regards,


LOREN FIELDS, Chief
NCP Division

enclosures

3855 Lakewood Boulevard, Long Beach, California 90846

DISASTER CONTROL RECOVERY TEAM

Mail Code 7-25

January 25, 1982

Los Angeles County Supervisor Kenneth Hahn
Hall of Administration
500 West Temple Street
Los Angeles, California, 90012

Dear Supervisor Hahn:

This morning you appeared on a segment of the Ch 11 news at 11:30 am, discussing evacuation of the basin in case of nuclear attack. As you explained, it would take 5½ days to evacuate all to the desert to such towns as Beaumont and Banning where there is little in the way of support for such a large number of people. With less than 17 minutes warning time, your solution was to prevent the attack in the first place.

We include Civil Defense in our classes. Could you give us the source of your information?

Yours truly,

C. C. Baal Jr.

C. C. Baal Jr.
Instructor

*Ans answered as of 3-13-82, but
then didn't effect one.*

MCDONNELL DOUGLAS

CORPORATION

OFFICE OF EMERGENCY SERVICES

POST OFFICE BOX 9577

SACRAMENTO, CALIFORNIA 95823

(916) ~~427-4990~~ 427-4205

July 28, 1981

Mr. Clarence C. Baal, Jr.
Disaster Control Recovery Team
Mail Code 7-25
Douglas Aircraft Company
3855 Lakewood Boulevard
Long Beach, CA 90846

Dear Mr. Baal:

In your letter of July 20, several questions are raised which I will attempt to address.

1. Part One of the State Emergency Plan is the basic plan. It provides authority, lists various potential emergencies which must be planned for, identifies the basic state emergency organization and related emergency tasks, and describes the interfaces between state and local governments for emergency operations. It was last updated and published in 1978.

Part Two, also published in 1978, addresses various peacetime emergencies and the general concept of operations to be applied, both in response to and recovery from the emergency situation. Considerable attention is given to post-disaster recovery and rehabilitation and the state and federal programs available to support such activities.

Part Three is the compendium of disaster-related legislation and references, and

Part Four is the war plan, now being revised and updated. It is important to note that this document is still considered a working draft and it will not be considered complete until all of the statewide crisis relocation planning has been accomplished.

2. The various food tables in the war plan were prepared originally by USDA some years back and lacking newer data were carried forward into the present document. The planning assumptions were based on survival requirements and are certainly austere. Shelter rations are even more so, since shelter life is very sedentary.

July 28, 1981

3. We are attempting to use the latest population figures but are limited, in some instances, by what data is available, particularly for computer data processing. These numbers will be updated as the 1980 census data becomes available.

4. While a uniform hosting ratio would seem to spread the congregate care load more equitably, it forces excessively long initial travel distances and places heavy strains on the resupply system.

5. The 50- and 75-mile limits are planning objectives, to be used where they can be met, and intended to minimize commuting distances and turnaround times. Our hosting problems are so high in California that host areas begin immediately outside the designated risk areas; we have no buffer zones. Therefore, only the most northern portions of Los Angeles County and southeastern Orange County are outside the risk area and available for hosting. Unfortunately, like the shelter program, the national approach to crisis relocation does not give us the same benefits as are possible elsewhere throughout the country.

6. The package disaster hospitals were surveyed several years back to those interested jurisdictions providing storage space. Some remain essentially intact while others have been cannibalized for worthwhile components. They do not represent a significant medical resource and reference to them will probably be deleted in a future revision of the draft plan.

7. When we first proposed doing crisis relocation planning almost three years back, we estimated six to eight years to accomplish the first full circle of planning for a state as complex as California. That estimate still applies. Last year, in addition to our contract planning process, FEMA initiated a fill-the-gap approach referred to as mini-CRPs. Under this approach, each jurisdiction would develop a rudimentary plan appropriate to the local situation. The objective is to have a very basic war plan in place which could be rapidly enhanced in the event of actual need. Some progress has been made in this direction and it continues to receive emphasis. Hopefully this process will result in a meaningful although limited level of awareness and preparedness by FY 1983.

I hope this letter is responsive to the issues raised. Thank you for your interest and concern.

Best Regards,



LOREN FIELDS, Chief
NCP Division

In theory Crisis Relocation Planning (CRP) and improvised fallout shelter form a beautiful concept. The plan is cheap, and with luck it can be fairly effective — as long as enemies of the U.S. will give us four days to implement it. The plan fits into tight budgets. It fits into a bureaucracy dedicated to social programs. When it tries to fit into projections of real disaster the "fit" seems to become questionable. Here concerned citizen Marc Ridenour takes a critical look.

SAUVE-QUI-PEUT!

— Marc V. Ridenour

You read articles, statistics, graphs and profiles that show how far ahead of the United States the Soviet Union has gone in terms of various military stockpiles. And from time to time you see a footnote on the civil defense situation — how we have practically nothing compared to the USSR.

But it really doesn't hit home until you go for an exploratory walk, as it were, and see just how bad it is in your own home town.

Then it sinks in.

That's what I did in Marshalltown, Iowa (population: 26,000). I had with me the current shelter plan — an attractive yellow and black supplement from the October 16, 1970 *Marshalltown Times-Republican*. Title: "Family Emergency Plan."

It contained a complete map of the city, with more than 40 numbered dots on the map to show where designated public shelters were located. Each shelter was supposed to be completely stocked and equipped with food, water, medicines, sanitation equipment, radiological monitoring gear.

I made calls at seven of the listed shelters. At two of them I found the remnants of shelter supplies — in disarray but they were there, at least in part, for what they might or might not be worth. I was not tempted to sample them. At one location — an apartment building — I simply found no one who knew anything about the shelter, no way to check it, no key on the premises. At three of the mapped shelters (one being our own county courthouse) there were no supplies at all, no shelter, no nothing. And at one address there was only a vacant lot — a city park-

ing area. The building was long gone.

That was enough. I cut short my visit right there. If we can't take care of our own Marshalltown people, I asked myself, how can we expect to assume an additional load as a designated host area under the Crisis Relocation Planning concept?

Editor's note: In-place shelter advocates so far have had the lion's share of *Journal of Civil Defense* copy — in spite of the fact that CRP is apparently the preferred U.S. Government civil defense policy. The *Journal* invites input from CRP advocates.

I had no answer. But I knew someone who did: Marcella Carlson, the dedicated and overworked Marshall County Civil Defense Director. I knocked on her door. And I asked her the same question.

"Concerning Crisis Relocation," she replied, "I feel it would possibly work in the case of an incident involving the Palo Nuclear Power Plant [65 miles east of Marshalltown] with up to 18,000 people earmarked to come from that area. It's been shown that 20% or less of the people who evacuate go where they're supposed to go. They move in with friends or relatives, go to motels, etc., and so we probably wouldn't get the entire 18,000. But we are planning for that amount. I feel it might work in this case.

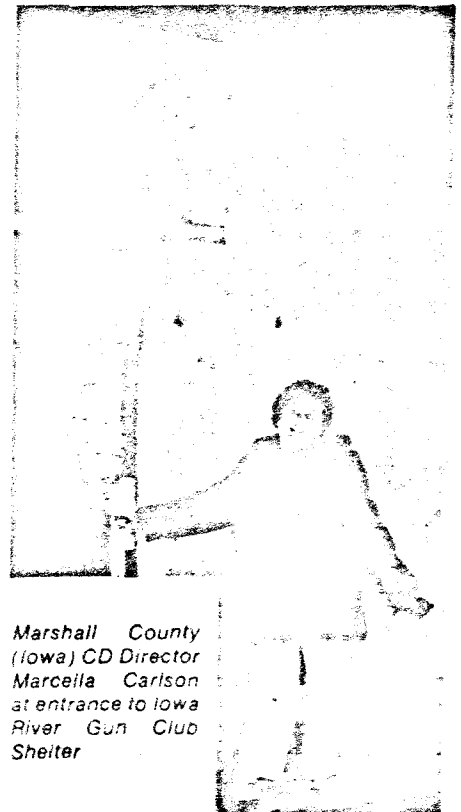
"However, as far as a nuclear war happening, no. I don't see how a county of this size could take in an additional 18,000 people and plan to shelter them from radioactive fallout when we don't even have enough shelter spaces for our own. Add to

that weather complications, especially in the dead of winter with the earth frozen hard as rock. And Marshalltown, Iowa is only one place of many in this predicament.

"I just don't think it's a bit feasible."

What came to my mind was the famous phrase used by French soldiers in rout at the Battle of Waterloo: "Sauve-qui-peut" — every man for himself.

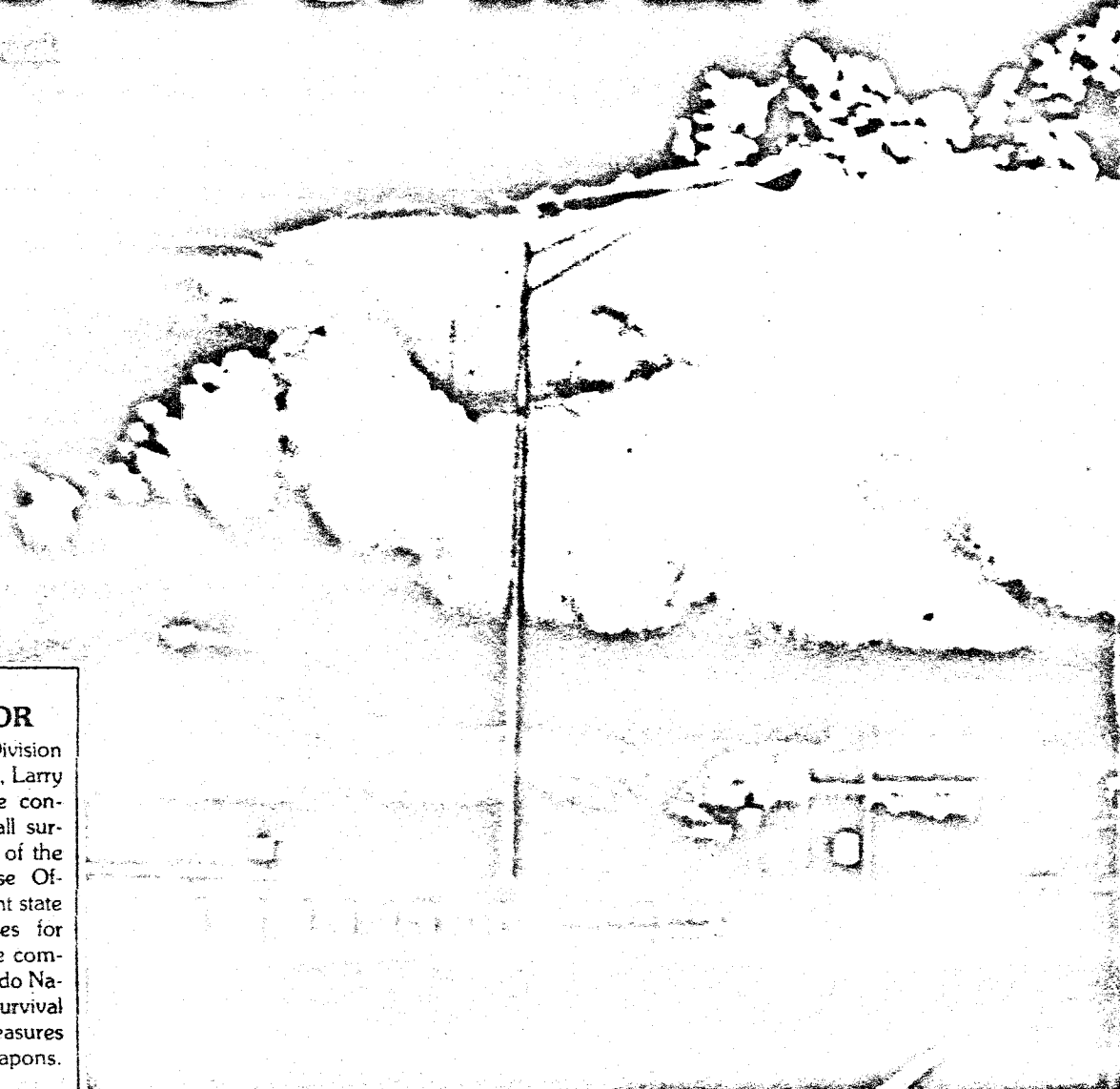
That's a hell of a way to run our homeland defense. But it's obvious that it's all we have until something better comes along. □



Marshall County (Iowa) CD Director Marcella Carlson at entrance to Iowa River Gun Club Shelter

EVACUATE!

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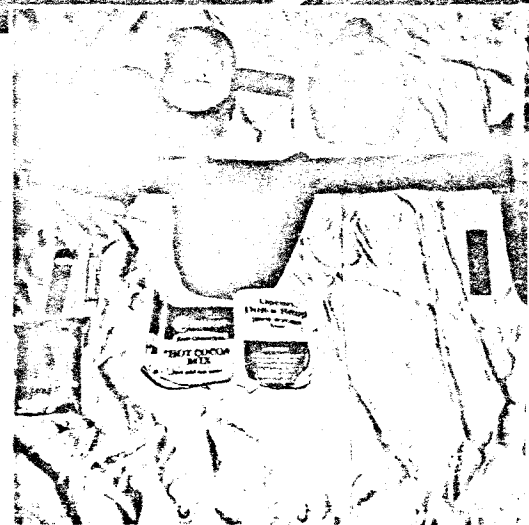
ABOUT THE AUTHOR

Employed by the Colorado Division of Disaster Emergency Services, Larry Ledwick also conducts private consultations and training for small survival groups. He is a member of the Colorado Radiological Defense Officers Association and has taught state and local government courses for them. He is currently an active competitive shooter with the Colorado National Guard and is writing a survival handbook about protective measures against the effects of nuclear weapons.

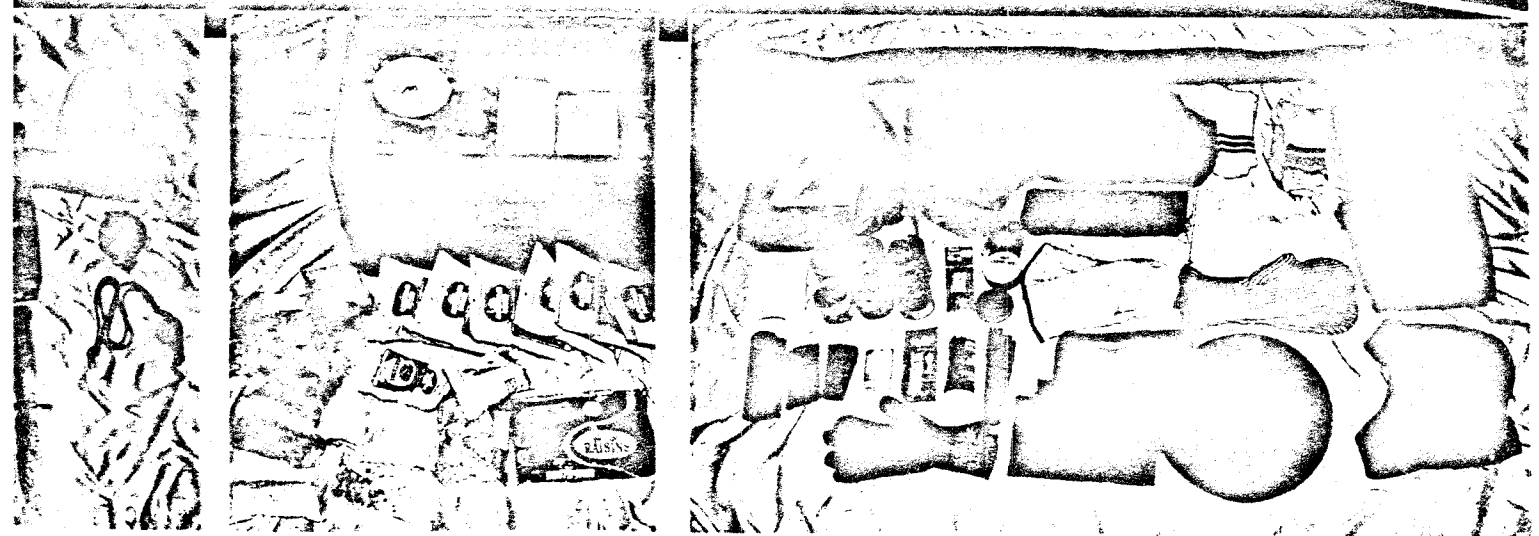
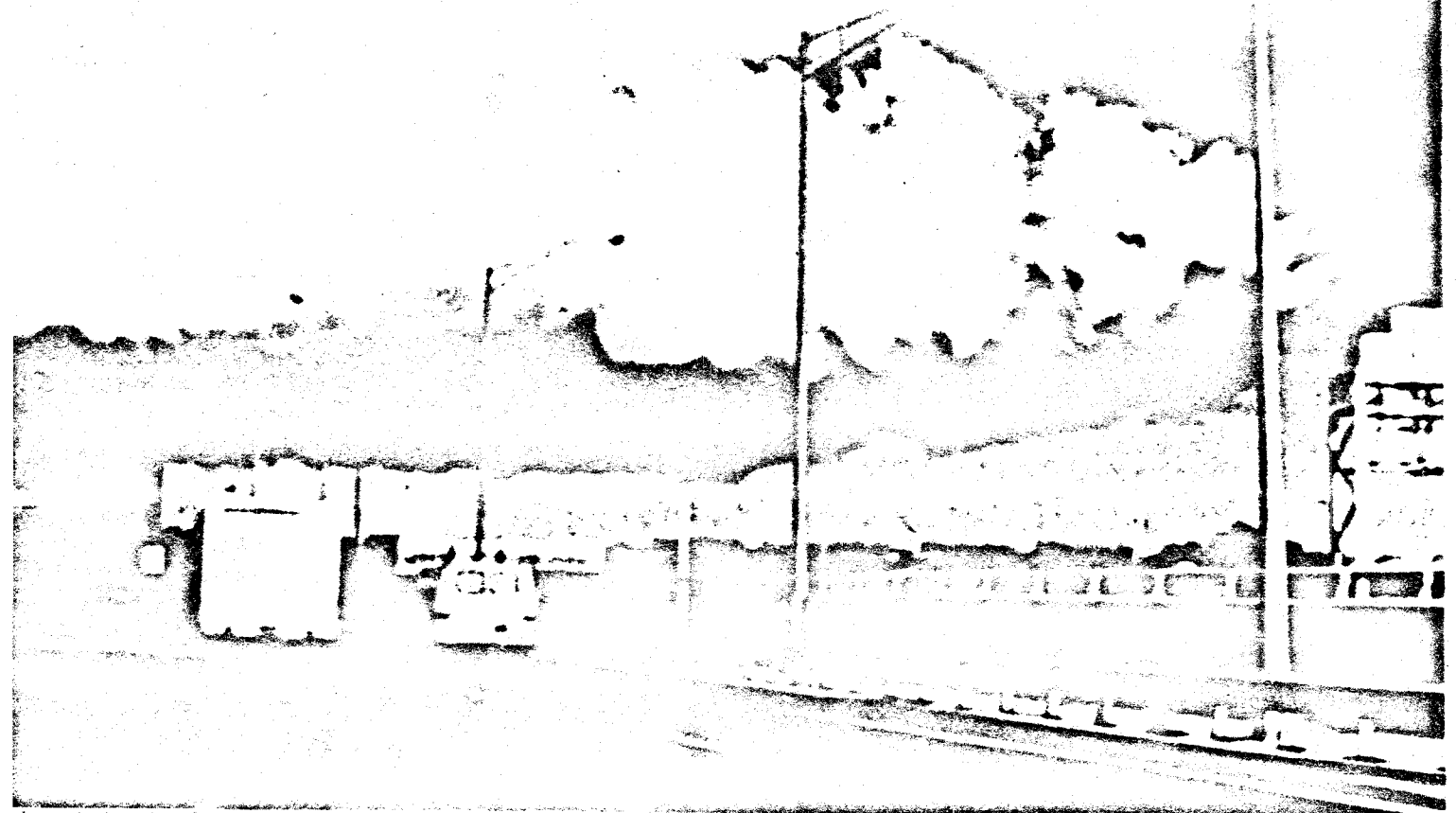
FRED hears the .50-cal. machine gun hammering away with its steady pum, pum, pum. . . Sarge is yelling something and pointing but in the eerie light and the noise of battle, Fred can't make out what it is. Suddenly he wakes up and realizes that he is in his own bedroom. It is 3:00 in the morning. But why all the yelling outside? And the flickering light? He stumbles and runs to the door, pulling his pants on as he goes. "Thank God you're up; get out of here! The plant is burning. . . everything is exploding," his neighbor Mike yells as he runs toward his car. Fred watches, dazed, as Mike burns a hundred miles of rubber off his tires. Fred is trying to decide if this is still a dream.

Then his wife Debbie comes to the porch and, looking at the sky glow in the south, asks, "What's wrong, honey?" The night is shattered at that moment by a blinding flash, then a huge ball of fire boils into the morning sky. Even at a distance of 1¼ miles, the heat is like a blast furnace. In a heartbeat, Fred's brain switches to reflexes he hasn't used since 1967. In one smooth motion he grabs Debbie and dives off the porch away from the fireball. They hit the grass an instant before the ground shock arrives, then, 1½ seconds later, the air blast rolls over their neighborhood like an ocean breaker. Picture windows become a hundred glittering daggers, doors are blown off their hinges and, nearer the blast, a roof tumbles like an autumn leaf in the angry glare of the fireball.

Continued on page 62



Pack Up for Troubles in Six Easy Steps



TOP: The Last Washington Painting, 1980, by Alan Sonneman, courtesy of the artist. **BOTTOM, left to right:** Contents of web-belt component of author's "panic bag;" foods inside small metal container; items in teardrop pack of "panic bag." Photos by author.

EVACUATE

Continued from page 42

Half dragging and half carrying Debbie, Fred runs toward their car. With his free hand he digs in his pants pocket praying the car keys are there.

Disasters happen frequently, and victims deal with them as best as they can. What I have just described is *not* an evacuation. It is the panicked flight of refugees from a disaster in progress. An evacuation is a *planned*, orderly departure from a hazardous area *before* the risk area becomes so dangerous that movement itself becomes an unacceptable risk. If you wait that long, it is too late to evacuate.

Recently, evacuation has been the focus of much debate, gnashing of teeth and wringing of hands — most of which has been directed at the Federal Emergency Management Agency (FEMA) and at state and local governments, who are responsible for the development of comprehensive evacuation plans to deal with any impending disaster. Unfortunately, many critics questioned these plans before they had reached even the first stage of completion.

Nobody claims that by having fire escapes and exit signs in major office buildings you make arson more likely. But in this case — because the word “nuclear” was often used — some felt that a city evacuation plan would somehow encourage destruction by nuclear weapons. However, through the efforts of thousands of volunteers, in the face of ever-dwindling funding, civil-defense agencies over the last 20 years have managed to maintain at least a skeleton of an in-place-shelter program and public warning system.

Evacuation is one option considered when dealing with almost any disaster. Whether it's a flash flood in Estes Park, Colorado, or exploding tankcars in Livingston, Louisiana, the problems are usually the same. And the time to handle them is almost always short.

Planning is characterized by a series of successive approximations, each more specific than its predecessor. These result in the most *workable compromise solution*. There is no such thing as a perfect plan, although some are significantly better than others. Planning is a process, not a product. Any plan can be shot down by playing a game of “what if.” The trick is to develop a plan general enough to handle most unforeseen situations, and specific enough to be efficient in the most likely cases — without being counter-productive in the worst case.

I hope to help you develop an evacuation plan for your family by showing some of the preparations I have made and pointing out some of the questions you need to ask yourself.

The most difficult hurdle for most people is devising a system to pack the essentials for easy loading or carrying. I use a

modular approach; starting with the most essential resources in the smaller and more portable travel packs.

I call my most basic travel pack my “panic bag,” composed of two items: a web belt with attachments and a small teardrop pack or rucksack. If necessary, I can carry it. My panic bag contains what I consider to be the absolute necessities for immediate to short-term survival:

Web Belt Gear:

- Compass
- Whistle
- Sheath knife with sharpening stone
- Metal canteen (1 qt., filled) with folding handle cup
- Cocoa mix (2), Dry soup mix (2) (fit in bottom of canteen carrier)
- Lip balm
- Disposable butane lighter
- Plastic bag with adhesive bandages, 2"x3" gauze pads, 1/2" adhesive-tape roll
- Hand soap (hotel size)
- 5"x7" wash cloth made from old cotton sock

Rucksack:

- Information pack
- Plastic tube tent
- Wool sweater
- Durable pants, 1 pair
- Two pair socks
- Wool muffler
- Two pair underwear
- Wool mitten liners
- Leather overmitts
- Urethane-coated nylon ground cloth/poncho
- 50-yd. roll 30# test nylon casting line
- Assorted hooks and fishing gear
- Zinc-oxide sunburn ointment
- Folding saw
- 100 ft. 1/8" nylon rope
- Disposable butane lighter in sealed store pack
- Four 3/4" candles
- Flashlight
- Sewing kit
- Sunglasses
- Boot laces
- Six cans of pull-tab one-dish meals (e.g., pork and beans)
- Roll toilet paper
- Wool GI glove liners (for use when mittens are too clumsy)
- Three trash bags
- Signal mirror
- Boonie hat (soft and floppy for shade)
- Insulated helmet liner or stocking cap

Obviously, the specific contents of these modular packs will be modified to fit your own needs. A family with small children, for instance, will require different things than a bachelor in his 30s. If you pack your equipment properly, you should be able to get out of bed at 3:00 in the morning, as Fred did, pack your car and leave in about 10 minutes. I did it re-

cently in 7:23, packing all the bags I will describe, including food and cooking footlockers I routinely use when camping. (A side benefit is that I never have to make a special effort to prepare for a hunting or fishing trip; I am always ready to go.)

Over the years I have tried many different ways to pack my gear: and the most effective is to put most of my clothes and equipment in soft duffel or athletic-type bags. They are handy to carry, can be color-coded, conform to odd little nooks and crannies in my jeep and don't scratch things up or rattle on rough roads. I strongly recommend that, with the exception of equipment that needs solid protection, you should avoid suitcases and footlockers because they're unwieldy and expensive. You can buy five or six duffel bags for the price of one suitcase.

One critical feature of my panic bag is the information pack. This is the key to restarting your life if your home and its contents are destroyed. It's also an aid in less-disastrous situations. It should include at least the following information:

- Insurance-policy numbers and agents' names and phone numbers

- Location of safety deposit boxes and bank accounts with account numbers (these can be coded for your protection by transposing a couple of *easily remembered* digits, or by adding, subtracting, multiplying or dividing the digits by a number unique to you — for instance, the sum of your address and your birth year)

- Copies of medical histories, wills, birth certificates, drivers' licenses, job histories/resumes and educational certificates

- Phone numbers of relatives, friends and key associates

- Pocket-size manual of emergency/survival information

Place this information in a stout envelope, seal and label for contents, wrap several times in newspaper and then wrap twice in aluminum foil. Seal in a heat-seal bag and place inside another heavy envelope. This will form a durable package able to tolerate a lot of abuse, float and even resist fire to some degree.

Depending on the circumstances — and time limit — I have prepared additionally a pair of duffel bags and a large, soft pack to augment my panic bag. These contain items which I consider necessary for long-term survival:

Blue Duffel Bag:

- Camp cook set (pots and pans)
- Camp stove and spare fuel can
- Poncho liner (light quilted blanket)
- Quilted, insulated inner pants
- One pair fishnet underwear (long-john)
- Insulated vest

- Two heavy shirts
- Two pair pants
- Pair sturdy boots
- Two pair socks (stuff inside boots)

Green Duffel Bag:

- Backpack tent with poles, pegs and rain fly
- Space blanket (reinforced type, not thin mylar)
- Mummy-type sleeping bag and over-bag
- Large bath towel
- Shaving kit
- Roll toilet paper (women should include sanitary napkins or tampons)

Tan Soft Pack:

- Closed-cell foam sleeping pad
- Rain gear (jacket and chaps)
- First-aid equipment in three color-coded pouches
- 100 ft. 1/8" nylon rope
- One pair protective covers for top of boots
- Field jacket, camouflage
- One set fatigues, camouflage

This equipment would cover you in a typical evacuation. In case of nuclear attack, you should include additional equipment for protection against fallout, etc.

I also stock a full-size suitcase with first-aid supplies. There are many good sources listing what to include.

Under nuclear-attack conditions, there is a special need for attention to sanitation. Radiation exposure usually kills by depressing the body's system; the victim dies from a massive secondary immunological infection and internal hemorrhage. The following equipment will allow you to set up minimum sanitation facilities in an expedient shelter.

Sanitation Kit:

- Portable toilet
- Three packages (10 each) disposable toilet bags
- Two packages (6 rolls each) toilet paper
- One can chlorine bathroom cleanser
- One plastic bottle cleaner/disinfectant
- Two boxes (40 each) tampons (more compact than sanitary napkins)
- Six toothbrushes
- Pair rubber work gloves
- Three bars soap
- Two 1-lb. boxes heavy-duty cleaner (for laundry, 1/8 cup)

My food, water and cooking packs are slightly more complicated than most would need, but they certainly make life easier. Remember that, in the Middle Ages, spices like black pepper and cinnamon were worth their weight in gold. Take special note of the five gallons of water; it could easily be your most valuable cargo.

Some additional items to consider for long-term evacuation are:

Comprehensive survival manual of your choice (e.g., the Army's FM 21-76 or the Air Force AFM 64-5)

Reading material

Deck of cards

Pad of paper and pencils

State highway map, local city map and topo map of the area to which you plan to evacuate

American Red Cross first-aid handbook or similar reference

Spare keys for house and cars

Envelope with emergency cash in small bills, blank checks and change

Small travel clock

Large sewing kit

Large box laundry detergent

Creature comforts (studies have shown that things like make-up for women, or shaving equipment for men, usually enable people to better tolerate discomforts)

At this point, you should have all your basic needs packed in some type of suitable container. Now it's time to load. First, assign a priority to each package; the most important will be loaded first. Second, actually fit them together in the car. When you find a comfortable arrangement, go on a couple of errands in the loaded car. You will usually find that some small readjustments need to be made. (In one of my first trial runs, one of my footlockers was banging on the window every time I made a left turn.) Also, when you return from a trip, make a note of the things you needed but didn't have with you, and note the things you never needed that could be replaced by more useful equipment.

The last two aspects of evacuation planning involve choosing your retreat site (which should, ideally, be reachable by foot) and what routes to use. Everyone in the family should know where you plan to go and how you plan to get there. You should have a family conference and decide what to do if everyone is out when disaster strikes. Every plan should include a nearby, out-of-town rally point. If evacuation is called for when everyone is away from home, the first family members to return home should load the equipment and then wait *only a specified time* for the others. Then they should move themselves and the equipment to the rally point, and again wait only a specified time. If the other family members still don't appear, those with the equipment should move toward the prearranged final destination. There should also be a secondary destination in case the roads are blocked or traffic is controlled. This plan will make evacuation more efficient and family reunion much more likely, because each isolated member will know where to look for the others — and where the others will be looking for him.

If at all possible, drive the planned evacuation routes, conducting a route

reconnaissance and looking for things like bridges and tunnels which are easily blocked and alternate routes around them. Look for places that local residents might intentionally block to keep out evacuees, then find alternate routes around them. Particularly if your final destination is hard to find under normal circumstances, be sure you don't have to depend on signs and other reference points that could be destroyed or altered.

When you have completed this evacuation planning, you have given yourself an option with which to respond to any disorder that might affect your home. You have not only made a contribution to your own survival, but in a small way you will ease the burden on your local emergency preparedness agency: You are one person or family group that will not strain already limited resources during an emergency.

Remember that planning is a process. You may find that evacuation is *not* the best choice for your family — and that is knowledge worth having. □

RECOMMENDED READING LIST

The following books are among the standard sources of information about nuclear war and how to survive it:

Nuclear War Survival Skills by Cresson H. Kearny (Caroline House Publishers Inc., Dept. SV, 920 W. Industrial Dr., Aurora, IL 60506).

Life After Doomsday by Bruce Clayton (Paladin Press, Dept. SV, P.O. Box 1307, Boulder, CO 80306).

Better Read than Dead by Thomas F. Nieman (Paladin Press).

The Effects of Nuclear War, compiled by the Congressional Office of Technology Assessment (Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402).

The Effects of Nuclear Weapons, edited by Samuel Glasstone and Philip J. Dolan (U.S. Dept. of Defense and Dept. of Energy, Superintendent of Documents).

— Eds.

Shelter and crisis relocation, their respective merits and pitfalls — Carsten Haaland of Oak Ridge National Laboratory, in the second of his three-part series, looks dispassionately at the effectiveness of passive defense measures.

II. HOW EFFECTIVE CAN SHELTERS BE?*

— Carsten M. Haaland
Oak Ridge National Laboratory

Suppose the Soviets build up a force of twenty to thirty thousand strategic nuclear weapons. Can there be any effective civil defense against such an arsenal used to attack the U.S. population? People who have studied civil defense believe that it is possible; however, it would require much, much more effort, expense, and education. An anti-missile city defense would add even more expense, but such an active defense combined with passive civil defense may be essential for deterrence and for survival, if deterrence fails, as the Soviets continue to build larger offensive systems.

Let us consider the effect of a continuing Soviet buildup of nuclear weapons on one of the major proposed civil defense plans for the United States, the Crisis Relocation Program (CRP). An important study¹ in 1978 showed that an effective CRP could be developed for only about \$2-3 billion. CRP can be effective only if there is time for the majority of people in high-risk areas (Fig. 1) to be relocated before a nuclear attack occurs. The study showed that a massive nuclear attack on the U.S. by the Soviets in the 80s would result in possibly 25-40% survivors if the U.S. civil defense program remained at its current level, that is, virtually no civil defense. But if CRP were implemented, the number of survivors after the same attack could rise to 80-95%. This program of relocation looked so good that President Carter ordered it to be implemented in

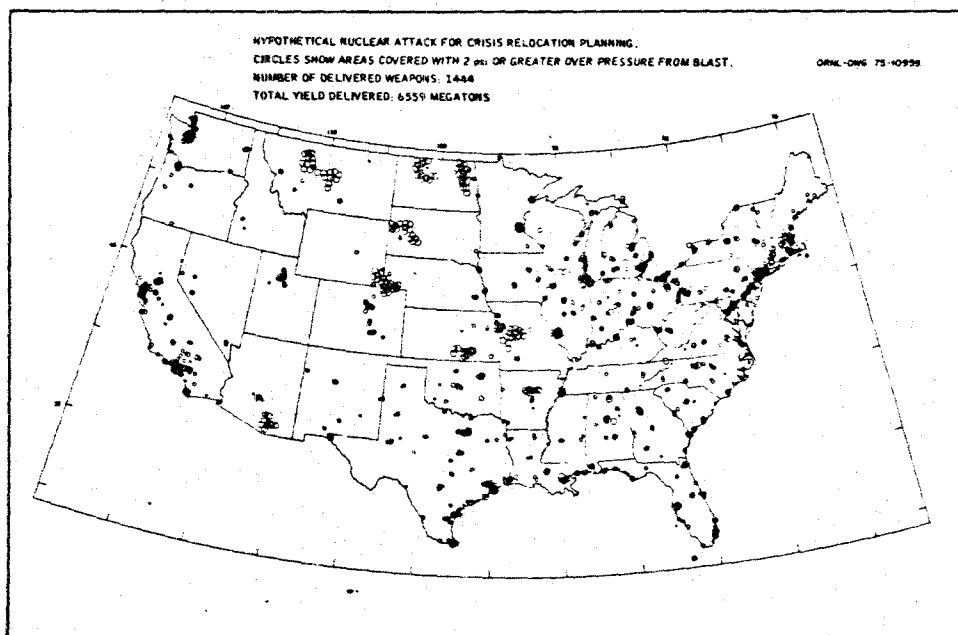
Presidential Directive 41, issued first in Secret form on September 29, 1978 and declassified on June 23, 1980. A slight variant of this relocation program, with the costs spread over a slightly longer time, has come to be known as Program D-Prime. D-Prime has many supporters because of its estimated low cost and high effectiveness.

Under this program, most of the people undergoing relocation are to be lodged in existing buildings in small cities and towns, a plan not yet being accepted by many towns involved. The buildings will provide, or can be quickly modified to provide, some fallout protection, but they will provide little or no blast protection.

If the Soviets build a force of tens of thousands of strategic nuclear warheads, many more of the smaller cities and towns could also become targets and be rated as high-risk

areas. The number of people to be relocated would then increase, the time required for their relocation would increase, the number of host areas would decrease along with the number of buildings available for shelter in the remaining host areas. It would then become necessary to build many more expedient shelters to protect the relocated population. Construction of these shelters would further increase the time required to get the U.S. population into a protected posture.

If the relocation plan finally becomes acceptable and ready to be implemented only after several years' development, it may then have a much reduced effectiveness: the time required for relocation of some 90-120 million Americans may by that time be much longer than the time required for the Soviets to get their people into a protected pos-



*Derived from research jointly sponsored by the Federal Emergency Management Agency and the U.S. Department of Energy under contract W-7405-eng-26 with the Union Carbide Corporation.

ture. A U.S. effort to develop D-Prime will certainly change Soviet plans and may spur the Soviets to hasten construction of their blast shelters, which they have been building for years. The belief that there will be time to implement D-Prime is predicated on the assumption that the Soviets will evacuate their people into rural areas according to their decade-old

sons: (1) they might feel they could accomplish their goals without risking the disastrous consequences of a massive U.S. counterstrike (devastating, even though it may be insufficient to halt the Soviet's pursuit of their offensive goal), and (2) they might believe that, by maintaining a prolonged crisis, they could seriously disrupt our economy or perhaps cause our political system to

psi and would also provide protection from most subsequent effects, such as the heat and noxious gases from firestorms as well as nuclear radiation from fallout. The hardness of 100-psi blast shelters reduces the area of lethality dramatically (up to a factor of thirty).

These shelters should be situated so that most mobile citizens in high population areas could walk to one

... D-PRIME ... MAY SPUR THE SOVIETS TO HASTEN CONSTRUCTION OF THEIR BLAST SHELTERS ...

civil defense plans.² If the Soviet relocation went according to these plans, a week or two might be required before the Soviets would feel that their people were protected. They would probably not consider launching a nuclear attack and risking a devastating counterattack until they had reached this position. However, the time needed to protect the population to a given degree would be greatly reduced if their people only had to move a short distance to existing blast shelters for protection. If a nuclear strike were launched after a crisis period of only a few hours, only a minor portion of the U.S. population could be properly relocated, and the D-Prime would not work as intended.

However, there is a possibility that the Soviets might not launch a first-strike while a major proportion of the U.S. population is vulnerable, even though their people are protected. For example, during such a period, the Soviets may try to talk the U.S. leadership into acquiescing to Soviet demands on any number of

change in their favor. Of course, one may speculate endlessly into different worlds of the future. Strategists often do, although they too often neglect the effectiveness of strong civil defense programs, particularly as deterrence to war and protection against nuclear blackmail.

From these brief considerations, one may conclude that although having D-Prime may not be a trump card, it would certainly be important to the U.S. in an international poker game. Furthermore, implementing D-Prime would immensely strengthen our country simply through the process of educating and training Americans on survival methods in nuclear war, and would awaken many to the realization that a nuclear war would not necessarily mean the end of the possibility of an acceptable society. An even stronger civil defense program, with blast shelters, industrial protection, etc., would provide even more effective deterrence and a greatly improved capability to deal with nuclear blackmail.

in just a few minutes; however, they should not be clustered so that a number of them become vulnerable to a single, modestly-large weapon. The distribution of people after they have occupied the shelters should be planned so that the number of people in any circle corresponding to the extent of the 100-psi overpressure does not exceed, but is less, if possible, than the preshelter population in that area. Shelters should be located in parks and open areas whenever possible to spread out the sheltered population and to reduce the possibility of rubble covering the shelter. Over moderately flat terrain, the area affected by 100-psi from a 1-MT groundburst would be about 1.3 sq mi (2.0 sq km). In general, the 100-psi area may be increased by about 40% by a weapon that is airburst — in this case, the 100-psi area for a 1-MT weapon would be about 1.8 sq mi (2.9 sq km). An attacker might prefer to ground-burst the weapon despite this decrease in area because, by ground-bursting the weapon, he will pro-

... D-PRIME ... WOULD CERTAINLY BE IMPORTANT TO THE U.S. IN AN INTERNATIONAL POKER GAME.

issues, which need not be discussed here. If, under these tense circumstances, the U.S. leadership acquiesced to Soviet demands, which may be made all-the-more tempting by asking only that the U.S. play a passive role, then D-Prime would have failed in a strategic sense.

Should the U.S. leadership not acquiesce to Soviet demands during these hours of U.S. vulnerability of the majority of its population, the Soviets might yet hold back on a nuclear strike for a least two rea-

The same 1978 study¹ that proposed CRP also examined other civil defense measures. That work showed that a blast shelter system—one that would maintain the initial survivor level at about 85-95% after the same massive Soviet attack hypothesized against the other candidate civil defense systems — could be constructed for less than \$100 billion (1979 dollars). The construction of blast shelters in high-risk areas would protect the occupants against overpressures of 100-

duce an enormous radioactive crater and will cover hundreds of square miles downwind with lethal fallout. Neither of these effects would be produced by an airburst.

In areas of high population density, the shelters can have a larger capacity than in less populated areas. However, they should not be constructed to hold many more than a thousand people per shelter. The problems of handling so many people in a single shelter are multiple — many more entranceways are re-

quired to prevent queuing, and ventilation, sanitation, and management become much more difficult. Also, the inherent safety from redundant systems is reduced by large populations per shelter. It is assumed here that 1000-person shelters are the largest to be constructed. In areas where the population density exceeds 2000 per

supply of weapons unless valuable targets were involved and key people were expected to be in shelter. The value of property in many of these areas may be high enough on the average to justify targeting with missiles. It will also be much more difficult in some of these high-density areas to place the shelters far enough from military-industrial

per one-megaton weapon by a factor of five when compared with the payoff of 100-psi shelters. The attractiveness of targeting people in the super-dense areas would be removed by constructing 1000-psi shelters for them, but the exorbitant cost of these shelters suggests that alternate methods of defense should be examined.

IN MANHATTAN AND DOWNTOWN SAN FRANCISCO . . . RAPID EVACUATION IS OUT OF THE QUESTION . . .

square mile, several shelters may be vulnerable to a single weapon. In the following discussion, three levels of population density will be considered, namely: (1) 500 to 2000 people per square mile; (2) 2000 to 15,000 people per square mile; and (3) 15,000 and more people per square mile.

According to an analysis of the 1970 Census³, about 45 million (22% of the U.S. population) resided in areas with a population density of less than 2000 (but more than 500) people per square mile. Such areas would be targeted only to destroy key facilities. Populations in such areas would be best protected by dispersion, if there is time, to sites away from the key facilities, although a few sites might justify having high-overpressure facilities. The number of weapons and their delivery systems are a limiting factor, even if the targeteer might have many tens of thousands of weapons. Targets within such urban areas would be selected on the basis of the attack plan being used. There would be no weapon fatalities in such areas if the shelters were located at least a mile from the likely targets, and the attacking weapon did not miss its assumed target by more than a quarter-mile.

What about protection of people who live in areas where the population density is greater than 2000 (but less than 15,000) people per square mile? Approximately 85 million were in this category at the time of the 1970 Census³. The fatalities and property loss would be higher per weapon here than in the less densely populated areas, but it still might not be high enough to justify the use of the always-limited

targets to be out of lethal range. Fatalities per weapon might rise to 10,000 even with people in 100-psi shelters.

At the time of the 1970 Census, about 20 million Americans lived within central urban areas which, if combined, would add up to only about 1000 square miles. The population densities for these areas ranged from 15,000 people per square mile to a maximum of 135,000 per square mile in the Bronx of New York City³. Protection of the people in these super-dense areas with a blast shelter system alone would be very difficult. The concentration of valuable industrial and real property is so great in these central urban areas that almost every 100-psi shelter would be located within lethal distance of a potential target. Furthermore, the key-people "payoff" in these super-dense areas, even though people are in 100-psi shelters, may become attractive to the targeteer.

Shelters providing blast protection against overpressures exceeding 100-psi can only be constructed at an enormous increase in cost. This increase is necessary to provide shock isolation to prevent the shelter from rattling its occupants, causing injury and death, when a nuclear weapon explodes nearby. To be safe, the shelter interiors must be mounted on large springs with shock absorbers, similar to an oversized automobile-suspension system.

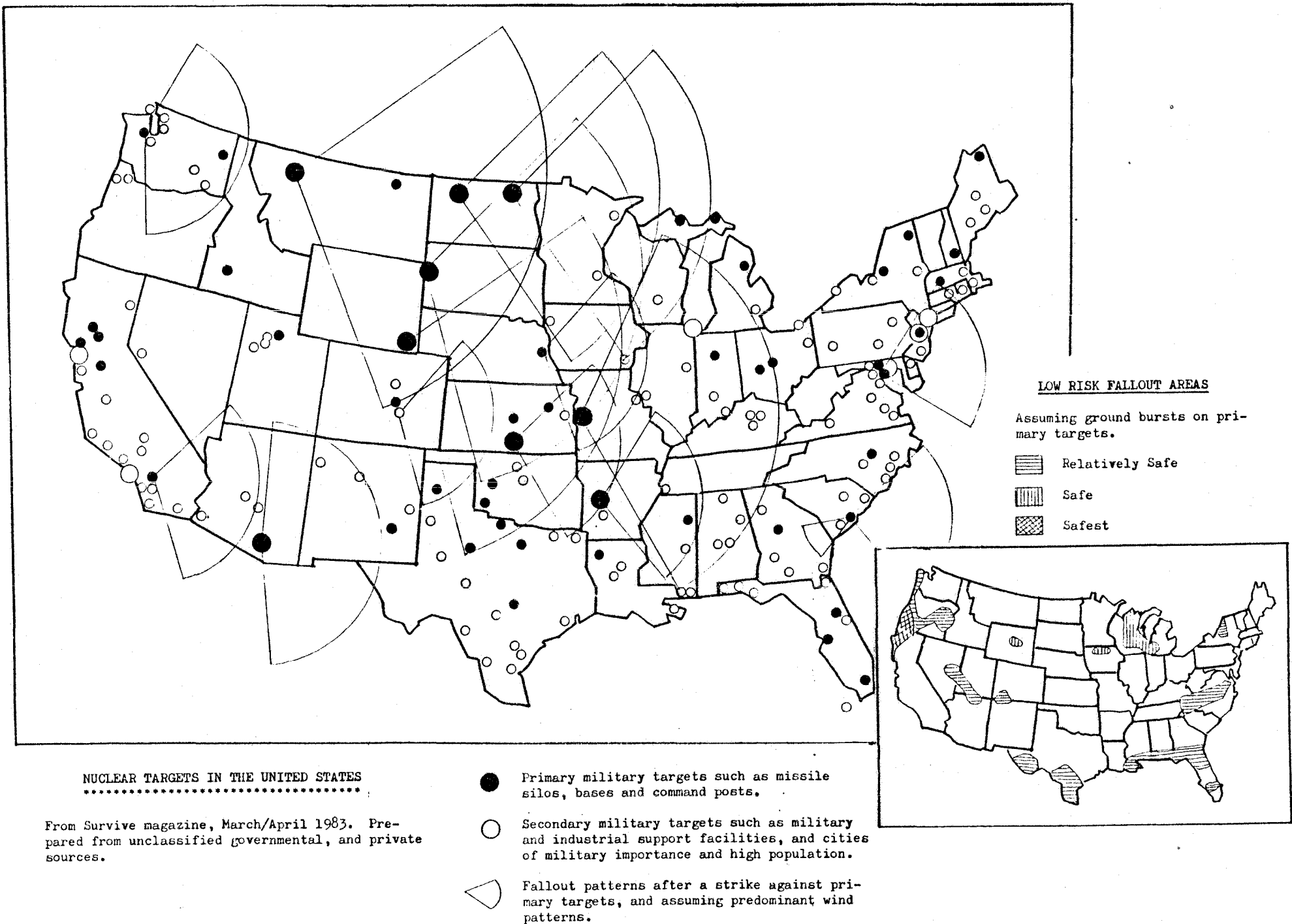
The technology for making shelters capable of protecting their occupants at overpressures up to 1000-psi already exists. Such 1000-psi shelters in the super-dense areas would reduce the people "payoff"

There are two other methods of defense for people in super-dense areas: namely, moderate evacuation (where possible) to adjacent areas and active defense, i.e., ballistic missile defense. In Manhattan and downtown San Francisco, for example, a rapid evacuation is out of the question because there is restricted access to adjacent areas. However, in most central areas, the people in super-dense areas could expand outwards in a short-range evacuation into 100-psi shelters in adjacent areas and thus reduce the people "payoff" to an unattractive level.

Where the short-range evacuation from super-dense areas is restricted by limited access, an active defense becomes attractive. This defense could be made strong enough to force the attacker to use so many weapons against the defended area that the payoff per weapon would be reduced to an unattractive level. The attacker would then seek other targets for his weapons. Active defense will be discussed in the third and last article in this series. □

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IS NUCLEAR WAR THINKABLE?

"Nuclear war is unthinkable," so state editors, commentators and talk show hosts. "The fallout would be so heavy no one could survive. There can be no winner in a nuclear war. We already have mutually assured destruction (the MAD doctrine) so why build more weapons? So what if the Soviets do have a civil defense program, what kind of world would be left?" The twisted logic of this line of reasoning implies that if nuclear war is unthinkable, then there will be no war, and instead of spending money on arms, funds can be diverted to social programs.

Since the first caveman learned he could bash out the brains of another caveman with a rock or club, there have been those that have wailed the race was doomed unless such weapons were outlawed. The crossbow, the submarine, and poison gas all fell into this category. Poison gas was outlawed in WWII, but the word "outlawed" is really a misnomer. The Axis did not use poison gas, only because they thought the Allied capability in this field was considerably greater than their own. It wasn't, and therein lies a military principle. You can only prevent an enemy using a military capability when you have an identical capability of far greater strength. This principle can also be applied to the maintenance of peace.

Though it is an amazing accomplishment, many on the national or public scene have managed to expound the theories of unilateral disarmament and detente while their heads are buried deeply in sand. "Nuclear war is unthinkable?" Wishing only makes it so in fairy tales, and misguided good intentions may bring you curses from your grandchildren for forcing them to live under Communism.

Our national policies, especially since the end of WWII, have shown a complete lack of understanding of Soviet psychology, or the goals of Communism. Those who follow Marx and Lenin have the fervor of missionaries, with world Communism the goal of their crusade, yet even when they have told us what they intend to do, our leaders have refused to take heed.

To the Soviets, nuclear war is thinkable, and when the balance of power is heavy enough on their side, they will very likely use that force. Actually, we have increased Soviet military capability by feeding them, selling them the technology, and by refusing to adopt a launch on warning policy. This means that by 1985, or before, we will allow the Soviets to destroy over 90% of our missiles in their silos before we consider retaliation.

The statement that nothing could survive the intense radiation is plain hysteria. Even under the worst attack conditions, there would still be areas of little, or no radiation. In fact, the high hazard

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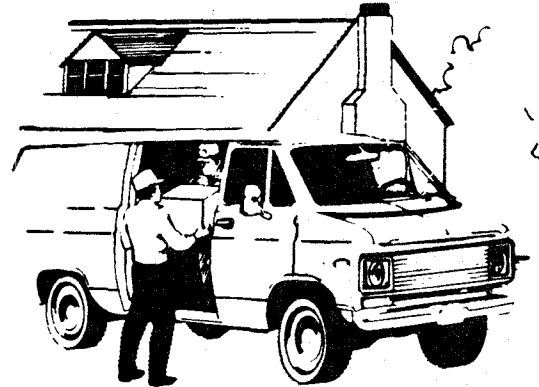
areas would be small when compared to the total area of the country. Proper planning and preparation can assure a good chance of survival for most of our population, but throwing up ones hands and wailing no one can survive a nuclear war could turn out to be a self fulfilling prophecy. If we do nothing, most will perish.

Yes, nuclear war is thinkable. We must consider the possibility, and we must prepare for it. Many lives would be lost in a nuclear exchange, but there would be survivors. How long they survive will depend on mental attitude and advanced planning. As to a winner, you will have to define just what you mean by the word "winner." If my grandchildren live in a free society after a nuclear exchange, while Communism survives only in the minds of a few radicals, then freedom has won.

- - - - Bud Baal
Probably written sometime in 1981



Roger J. Sullivan



WHY WE NEED CRP

— Roger J. Sullivan

Roger Sullivan's position as System Planning Corporation Civil Defense Program Manager gives his article top credibility. System Planning Corporation's civil defense research has been extensive and widely used as a resource for reliable information and statistics. Dr. Sullivan writes from a position of unquestioned prestige and authority. His article reflects his personal views.

President Reagan has repeatedly called for a steeply upgraded civil defense program. Congress should support this.

The Soviet Union and the United States currently each possess several thousand strategic offensive nuclear weapons, deployed on intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and bombers. In principle three broad types of strategic defensive systems can counter these: antiballistic missiles (ABMs — to shoot down incoming ballistic missiles), air defense (to shoot down incoming bombers), and civil defense (to protect the country's assets, especially population, from the effects of nuclear weapons that penetrate and explode). Soviet air defense and civil defense are each many times as extensive as their U.S. counterparts. (ABMs are essentially prohibited on

each side by means of the 1972 ABM Treaty.)

For many years U.S. policy has been based on "mutual assured destruction": the theory that neither side will attack the other because, if it did, the attacked nation would retaliate and destroy the attacker. Such a principle is highly dubious because (1) it is based entirely on our perceptions of Soviet intentions, not on their capabilities, and it may prove wrong in a crisis; and (2) the Soviets have never subscribed to it. Furthermore, as accuracy improves and the use of Multiple Independently-Targeted Re-entry Vehicles (MIRVs) increases, either side may, in the midst of some future crisis, conclude that, by attacking, it can destroy far more missiles than it need expend, thus possibly making an attack seem worth the cost. Thus the "crisis stability" of the current situation is not encouraging.

The situation would be much more stable if it were based on a principle of "mutual assured survival". Each side would possess relatively low levels of strategic offensive systems, limited by means of arms control negotiations such as the Strategic Arms Reductions Talks (START) proposed by President Reagan; and relatively high levels of strategic defensive systems to reduce the effectiveness of an attack. Stability would be greatly increased because (1) it would be based on verifiable Soviet capabilities, not their intentions or doctrine; and (2) it would ensure that any attacker would expend more weapons than he could destroy, thus removing the incentive for an attack. Such a policy requires both offensive arms control and strategic defense — two concepts that are complementary, not contradictory.

The most extensive plausible

nuclear attack against the U.S. is one that targets our military facilities and industry. However, population *per se* is not considered a target by the Soviets: thus an evacuated population would most probably not be targeted. A map of probable "risk areas" reveals that blast and fire would very likely cover only a few percent of the area of the 48 contiguous states. Because industry is generally located in cities, this area includes about 70 percent of the population. Such an attack would also produce extensive radioactive fallout over much of the nation. It would blow generally from west to east and decay substantially during the days following the attack. Although an attack could conceivably be launched "out of the blue", most analysts believe it far more likely that it would arise from an escalating crisis over a period of several days or weeks.

Protection against an "out of the blue" attack would require a nationwide system of blast shelters and would cost over \$60 billion. In the current cost-cutting environment, such a commitment by the government seems highly unlikely. However, protection against the more likely attack-from-crisis, based on evacuation, would be far less costly: about \$2 to \$4 billion over 5 years or about \$2.00 to \$4.00 per American per year (we currently spend about 50 cents per American per year on civil defense.)

Four important questions must be addressed regarding such a program:

1. *Would a Crisis Relocation Program (CRP) work if people cooperated?*

Under a CRP, the officials of each state and county, in coordination with the Federal government, are establishing detailed plans and preparations for moving people out of primarily-urban high-risk counties and into rural, low-risk "host" counties. To protect themselves from radioactive fallout, people would have to establish "expedient" fallout shelter, following instructions provided by government. This could be done most easily by going into basements of existing buildings and piling earth around the outside, and in some cases on the first floor, to attenuate the radiation. A CRP should include detailed county-by-county preparations for traffic regu-

lation, building allocation, and stockpiling of essential supplies, including water, sanitation kits, medical supplies, and some food. A great many issues have been analyzed concerning evacuation, including: key workers to maintain vital functions and prevent looting; traffic control; evacuation of people without cars; fuel supplies; housing and food in the "host" areas; and so forth. The overall conclusion is that, if the people cooperate, it can be accomplished successfully in one to three days. Analyses show that a large-scale attack would kill roughly 80 percent of the American people if there were no preparation, but about 20 percent if the CRP had been successfully implemented in advance.

2. *Would people cooperate?*

Since World War II there have been over 200 evacuations within the United States as a result of actual or impending natural disasters, such as earthquake, hurricane or flood. These evacuations have been routinely successful. State and local civil defense officials are capable individuals who know how to direct an evacuation without its resulting in injuries or inordinate chaos. Experience shows that the better the advance preparations, the more smoothly the evacuation proceeds.

In the absence of disaster, many people are apathetic or even hostile to the idea of evacuation; but when a real disaster seems imminent, people put aside their pre-disaster attitudes and cooperate with officials and with each other to a surprisingly high degree. To encourage such cooperation it is particularly important that officials provide as much information to the people as possible, before and after the disaster.

Whereas a natural disaster is an island of disaster in a sea of normalcy, an impending nuclear attack would imply potential disaster areas all across the country, corresponding to all military facilities and sizable cities. Extensive peacetime preparations, coordinated among Federal, state and local officials, would be a prerequisite to an orderly nationwide evacuation. Nevertheless, to any particular individual, one type of evacuation would appear about like the other. Thus it is reasonable to expect people generally to cooperate with authorities during a nuclear crisis evacua-

tion. Furthermore, experience (e.g. Cuba 1962, Three Mile Island) has shown that, during a perceived crisis, a substantial fraction of the people will *spontaneously* evacuate. If for no other reason, nationwide CRP is necessary to channel such spontaneous evacuation and help people to relocate to relatively safe areas, instead of perhaps to other risk areas.

In a nuclear-crisis evacuation, people would have to follow instructions from authorities to establish expedient fallout shelters in the "host" areas. Over the years many tests have been conducted with untrained individuals, and have demonstrated that, given information and incentive, people can and will construct such shelters and live in them for several days.

Polls have shown that over 75 percent of the American people want good civil defense and are willing to pay the cost of a CRP. Most people do not become actively interested in civil defense until a crisis occurs; however, at that point they besiege the government for information and instructions and expect government to be ready to provide leadership.

3. *Would Postwar Survival and Recovery be Possible?*

A number of detailed studies have concluded that, if people are sheltered until the radioactive fallout decays, and if proper preparations are made for continuity of government and management of surviving resources, then long-term survival and recovery are indeed possible. An excellent book on how individuals can protect themselves is *Nuclear War Survival Skills*, by Cresson H. Kearny. It explains how to evacuate, construct shelter, obtain safe water, food, light, and sanitary facilities, and how to survive without doctors. I have personally conducted research on survival during the first year after a nuclear attack, considering the availability of such essentials as fuel, transportation and communication facilities, food, water, housing, clothing, sanitation, the threat of disease and long-term radiation, and potential ecological disruptions, following an evacuation and a nuclear attack. Life would be considerably more difficult than it is today, and many cities would be in ruins. I concluded, nevertheless, that if governments make sufficient preparations in peacetime, the people can survive in the post-attack

environment and begin to rebuild the nation.

4 Would a U.S. CRP Increase the Chance of Nuclear War?

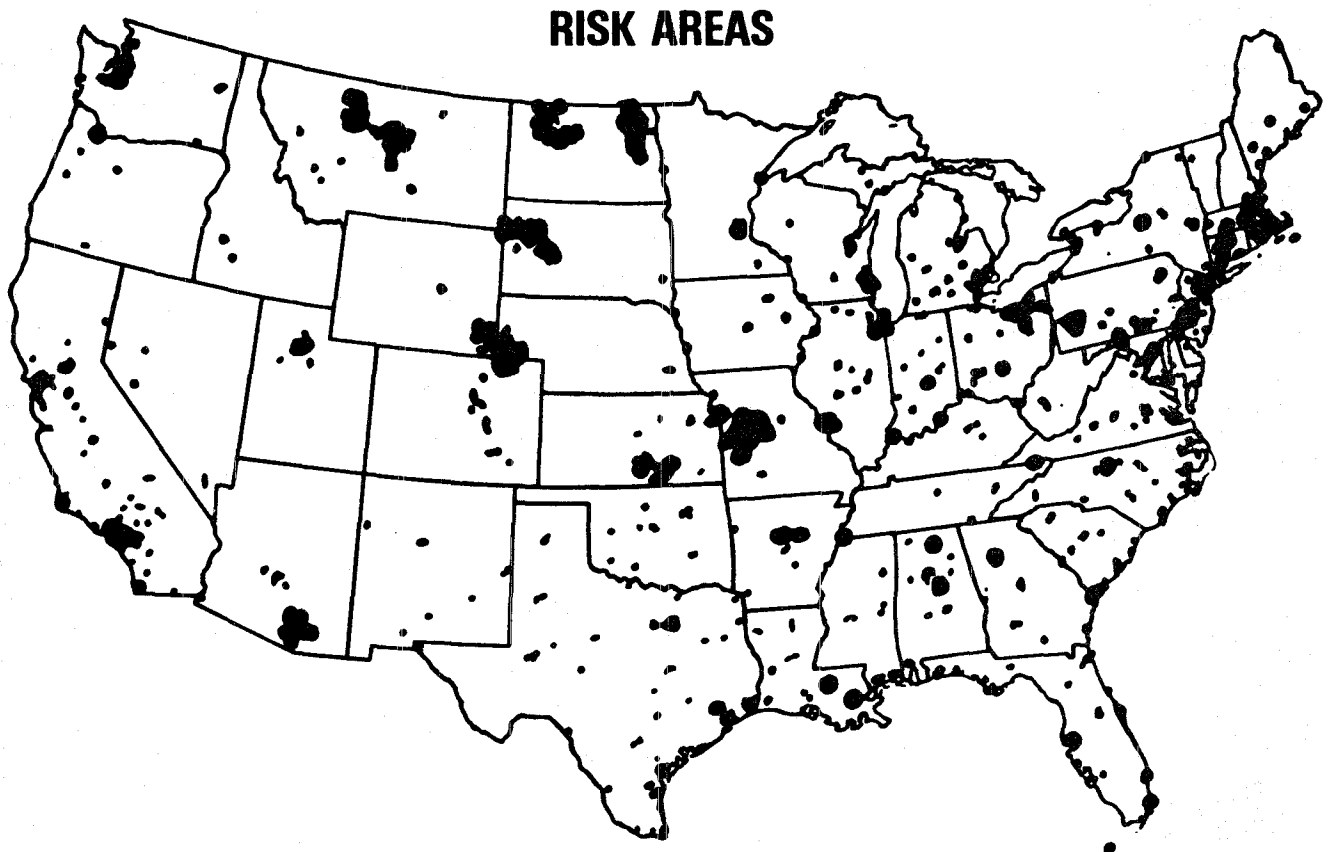
In 1978 I interviewed about thirty authorities on crisis management and nuclear strategy — including liberals, conservatives, and "middle-of-the-roaders" — on the question of whether an effective U.S. CRP would be likely to precipitate a serious crisis or make nuclear war more likely. I concluded the following. If a nuclear crisis occurred, it would result from many complex and unpredictable causes. The presence or absence of U.S. or Soviet civil defense would have a relatively minor effect on the central events of the crisis itself and would probably not materially contribute to the chance of escalation to nuclear war. The U.S. should probably not evacuate in the absence of Soviet evacuation. However, if the Soviets begin to evacuate, then we should definitely do so as well, to protect our people if war follows. Such a U.S. responsive evacuation would not be likely to escalate the crisis further, and could well con-

tribute to de-escalating it.

Civil defense may be likened to a seat belt in a car. From time to time I achieve a particular objective by driving my car from one place to another. I drive as carefully as I can, and try my best to avoid accidents; however, I also wear a seat belt to minimize the damage to myself should an accident occur. Similarly our country should conduct its national policy so as to achieve our objectives while trying our best to avoid nuclear war. Yet we need the "seat belt" of civil defense to minimize damage to our people should nuclear war nevertheless occur. I believe that civil defense would not increase the chance of war any more than seat belts increase the chance of automobile accidents.

Since World War II the U.S. government has performed over 25 broad studies of civil defense and many hundreds of studies of its various components. The overwhelming conclusion is that it can work and we need it. In my view,

the purpose of civil defense is not to make nuclear war more "thinkable" (thousands of people think about it every day) or "winnable" (this is admittedly a dubious concept). It is simply to provide as much protection as possible in case nuclear war occurs. The weapons are there. No physical barrier prevents them from being used. People and nations are unpredictable. A serious superpower crisis can occur anytime. Several days of advance indication of attack might well be available, especially if the Soviets began to evacuate. Heavy spontaneous evacuation would occur in the U.S. The public would cry out for leadership by government. Proper government preparation would provide the American people with a greatly increased chance of survival and recovery, should deterrence ultimately fail and nuclear war occur. We have an obligation to ourselves and our descendants to protect ourselves as much as possible against this terrible disaster. We need civil defense. We need CRP. □



U.S. blast risk areas. This map was prepared by the Federal Government and illustrates areas judged most likely to be targeted in a large scale nuclear attack.

EDITORIAL . . .

THE MEANING OF "P³"

"Preparedness-Protection-Peace — P³." This strategic defense theme for TACDA's Wichita seminar in October sums up the convictions of 9 out of 10 Americans. It is historically accurate. Dramatic proof of its accuracy for peace-aligned nations has been demonstrated throughout the current century.

But being convinced of P³ does not lead to action to implement it. Needed to bring it on line is the presence of some other factor or combination of factors.

We see a similar indifference in transportation safety and elsewhere. Seat belts in automobiles, for instance, make good sense to 9 out of 10 Americans, and all automobiles are now duly equipped with them. But 9 out of 10 Americans do *not* use them. By contrast, in aircraft everyone buckles his seat belt. Why? It's a requirement. No one objects — even though the lifesaving potential is much less in an airplane than in a car.

One of the factors that can lead to a sudden serious consideration of P³ is the imminence of war. This happened during the Cuban Crisis. The trouble with this factor is that time for necessary action is absent.

Another factor is the timely realization that war — nuclear war — is an actual possibility or probability and that family and small-group measures can be taken to implement the preparedness and protection segments of P³. The stumbling block here is that very few people can, without the impetus of sudden danger, grasp the importance of such measures and are willing to make the required investment. Those who do are apt to be ridiculed by the media and misunderstood by the public. We call them "survivalists."

CORRECTIVE ACTION WILL TAKE DOLLARS. BUT IT WILL TAKE MUCH MORE THAN DOLLARS.

Political leadership is also a factor. Participants at a FEMA training seminar at Emmitsburg, Maryland in April called it the *key* factor and at FEMA's invitation reminded FEMA that FEMA's No. 1 responsibility was not to focus its attention primarily on community preparedness but to stimulate the national leadership to recognize the fact that civil defense is an integral, a vital, part of national defense and that it requires unmistakable and sustained major emphasis and action at the national level. That is, if Americans are no longer to be hostages to foreign aggression. Whatever the investment, P³ is a thousand times more important than say, foreign aid — even food stamps. Both national survival and community survival are at stake. Only with the intelligent and determined exercise of national leadership can P³ be implemented to get America off its knees. Commitments to civil defense, no matter how sincere, are useless unless followed by strong and meaningful action.

In those countries where civil defense now provides an effective nuclear umbrella, political leadership has been *the* determining factor. Political leadership — *not* the people — has been responsible for the programming and realization of P³ in Sweden and Switzerland. And P³ there, in spite of overwhelming difficulties, has been responsible for over 165 years without war in the very midst of bellicose, covetous neighbors. All-out leadership efforts in the Soviet Union and China have achieved a preparedness and a protection for their peoples that work as hard-boiled deterrents to aggression against them, nuclear or conventional.

Why has the United States, so sensitive to human rights and human dignity and human life, failed in its primary constitutional obligation to provide for the safety of its citizens? The idea that survival is too expensive is obscene. The idea that survival is impossible is obscene. The idea that Americans do not deserve it is obscene. Yet unfriendly foreign interests have cultivated these obscenities in our land with our undoing in mind.

Corrective action will take dollars. But it will take much more than dollars. It will take leadership, the kind of leadership we are capable of, have ready to use, but have not yet demonstrated.

P³ — preparedness-protection-peace — must now be put into orbit if America is to endure.

This is the meaning of TACDA's theme for its 1982 Wichita seminar. That theme will underlie the entire seminar program. It presumes that we are close to P³ action. We have to be.

*There is more than one way
to skin a cat—or kill a country*

THE DAY THE U.S. WAS DESTROYED

Condensed from
THE SATURDAY EVENING POST

STEWART ALSOP

THE FOLLOWING exchange between Sen. Claiborne Pell, of Rhode Island, and Gen. Earle Wheeler, chairman of the Joint Chiefs of Staff, is excerpted from the record of a Senate Foreign Relations Subcommittee hearing of a few months ago. The subject was a grim one: the planting of nuclear bombs in American cities by stealth.

Sen. Pell: Is it not conceivable that missiles could be planted within our cities, no matter how good our anti-ballistic-missile screen was?

Gen. Wheeler: This is possible.

Sen. Pell: If 25 trucks fanned out over the United States, they could do the job and negate the most excellent ABM device, could they not?

Gen. Wheeler: If someone could get the devices into the country, assemble them and fan them out, the answer is yes.

THIS COLLOQUY has inspired the following experiment in science fiction:

From a document marked *LONDON, MOST SECRET, Eyes Alone: From MI 6 for PM, FS and M only:*

The records we have been enabled to obtain indicate that neither the Hertz nor the Avis auto-rental company had the slightest suspicion that the American-International Shrimp Corp. was anything other than an authentic business concern. At the request of the corporation, Hertz therefore unhesitatingly delivered 13 refrigerated lorries to a dock in the vicinity of Port Isabel, Texas, while Avis supplied 12 lorries to the

shrimp corporation's representative at the unloading platform on the Caloosahatchee River, near Fort Myers, Fla.

According to a reconstruction of the event by our agents, 13 heavy containers, smelling strongly of shrimp, were hoisted aboard the Hertz lorries from three shrimp boats. The Avis lorries were similarly loaded. The loading of all 25 lorries was completed between 2 and 3 a.m. on July 11, 1971.

The lorries thereafter fanned out over the then excellent U.S. highway system, the Hertz lorries heading for Chicago and points West, whilst the Avis lorries sped toward the 12 largest Eastern cities. Only one lorry failed to reach its destination.

We have obtained a still legible copy of the Washington Evening Star of July 12, 1971, which on page 2 reports a "mysterious explosion of a refrigerated truck" 110 miles south of Pittsburgh, Pa. The explosion apparently killed the driver and two policemen. Presumably the police had, for some reason, stopped the vehicle and begun to investigate its contents, thus triggering a "dead-man" fuse. In any case, alone of the major Eastern cities, Pittsburgh survived physically intact, although the majority of its citizens subsequently succumbed to the heavy fallout from Cleveland.

The driver-agents (who were doubtless unaware of the contents of their lorries) must have been exceedingly well briefed, for all the remain-

ing 24 lorries arrived at their assigned destinations 36 hours after the start. It has been established from blast patterns that the Avis lorry in Washington was parked near the intersection of 16th and K streets, a few blocks from the White House, while the Hertz lorry in Chicago was parked a block from the Tribune Tower. Other locations were chosen with similar care. The timing devices must have been extremely accurate, for all 24 explosions occurred within less than a single minute.

MI 6 has been able to obtain a portion of the tape recording of the final conversation between the general commanding the Strategic Air Force, in his underground command post near Omaha, Neb., and the commanding general of North American Air Defense, in a cave in Colorado:

SAC: *No word from the Classified Locations, General?*

NORAD: *Not a word, General. Congress was in session, and the President was in the White House. The Vice President had the Second Satchel, but he must have got it, too.*

SAC: *Then I guess it's up to us.*

NORAD: *Yes. . . . Must have been the Russians, of course. Funny we got nothing on the radar. Estimates of fatalities are in the 80-million range. Only preliminary, of course.*

SAC: *I guess we've got to go. You concur?*

NORAD: *I concur. Over and out. Within 28 minutes the first mis-*

sile of the U.S. salvo exploded on its programmed target in the U.S.S.R. The salvo delivered 400 megatons on Soviet targets, the minimum required to destroy the Soviet Union as a functioning society. The Soviet counter-salvo, on top of the great damage already done, achieved the same purpose in the United States. Several of the larger American cities suffered the ignominy of being destroyed twice over.

In the opinion of MI 6 there is no question that the American-International Shrimp Corp. was the cover name for an elaborate Chinese Communist operation. Although Fidel Castro hotly denied it before he died of fallout from the United States, there is little doubt that there was some element of Cuban collusion — the shrimp boats certainly embarked from Havana.

In his 78th year at the time, the late Mao Tse-tung was near death and unquestionably mad. But, in destroying at one stroke both the hated "modern revisionists" and the "American imperialists," Mao surely displayed a certain genius in his madness.

The Chinese, of course, have never acknowledged their role in the

catastrophe, which utterly destroyed the world's two greatest powers. Given the unchallenged global domination of the People's Republic of China today, the Chinese role, on orders of the PM, may only be mentioned in a Most Secret document, such as this one. DESTROY ON READING.

THIS IS NOT, of course, a prediction of things to come. And yet, as the colloquy between Senator Pell and General Wheeler indicates, there is no purely *technical* reason why something of the sort might not take place.

We Americans harbor a stubborn illusion that everybody else must do it our way: because we depend on an elaborate and immensely costly missile system to deliver nuclear warheads, we assume that every other country must do likewise. The preceding nightmare may serve as a reminder that there is more than one way to skin a cat—or kill a country. Finally, it may also be worth noting that most U.S. intelligence experts believe that the senile genius, Mao Tse-tung, is already, to a degree which cannot be precisely determined, insane.



Federal Survey

Foes of A-Defense Evacuation Plan

Washington

Local governments formally opposed to President Reagan's civil defense plan for a nuclear attack are concentrated in California and New England, a government survey showed.

Twelve communities in California oppose the concept of evacuating civilians to the countryside to survive a nuclear war, the Federal Emergency Management Agency said, based on a survey taken June 10 and 11 through the agency's 10 regional offices.

The government is counting only 28 communities in the nation as opposing the plan to evacuate cities in the event of nuclear attack, despite a storm of criticism of the Reagan administration's civil defense plan.

"I think it's encouraging," agency spokesman David Denne said yesterday. "The reason I say so is there's been an awful lot of talk that there's this groundswell of communities that have rejected it."

"From what we've been able to gather, 28 communities versus the thousands that are involved in crisis location planning doesn't sound to me like a groundswell."

Four communities have rejected specific "crisis relocation programs" while 24 have rejected the "concept" of the government's program, the survey showed.

The San Francisco Board of Supervisors voted 7 to 4 in May that the city "shall not participate in any civil defense planning that is designed solely to promote crisis relocation" for a nuclear attack. The resolution said that "such preparations only increase the threat of nuclear war by deluding citizens into believing falsely that they can survive a nuclear war."

Marin County supervisors, calling the federal policy "senseless," refused in March to comply with the request to submit an evacuation plan for the county's 220,000 residents. "There is only one way to prepare for nuclear war and that is to prevent it," said Supervisor Barbara Boxer during the discussion.

President Reagan's \$4.2 billion seven-year program proposes to move about two-thirds of the population in 319 "high risk" cities and 61 defense installations to the countryside. The plan would evacuate 80 percent of the Bay Area's population and assumes officials would have one week of warning before a nuclear attack.

Emergency management agency officials emphasized that the survey may not be exact because it was based on information from state officials and other second-hand sources. But a preface to the survey said the information is "correct in indicating a relatively small number of local actions in opposition to the program."

Critics say there is no way to protect the population from nuclear attack. The program is now snagged in the budget process.

The agency has hired the Gallup polling organization to conduct three nationwide surveys of sentiment toward the proposal. Final results from the first poll are expected this week.

According to the agency survey, the four communities that have rejected specific evacuation plans are Farmington, Maine; Lincoln County, W.Va.; Alexandria, Va.; and Boulder, Colo.

Counted as rejecting the "concept" are Brattleboro, Fair Haven, Ludlow, Shattsbury, St. Albans and Woodstock, Vt.; Acton, Lincoln,

Lynnfield, Cambridge and Amherst, Mass., and Houston.

The survey counted 12 communities in California as opposing the concept, but listed 16 jurisdictions as reacting negatively to the plan: Sacramento County, Contra Costa County, Humboldt County, Marin County, San Luis Obispo County, Santa Cruz County, Los Angeles, San Francisco, San Jose, City of Santa Cruz, Monterey County, Sonoma County, Carmel-by-the-Sea, Salinas, Palo Alto and Sunnyvale.

The survey also noted "negative actions" in Washington State in King County, Seattle and Mason County but did not list them in opposition because of lack of official notification.

United Press

WORRIED LOS ANGELES CRITIQUES ITS CD PREPAREDNESS

In a 60-page report the Los Angeles County Chief Administrative Officer has responded to Board of Supervisors concern about the county's civil defense readiness. Gist of the report: the county is far from ready and badly needs to gear itself to an effective preparedness posture.

Much has been done, and done well, by dedicated experts to prepare for disasters, especially those in the moderately severe range. "However," the report states, "more efforts are needed by the public and private sectors to prepare for catastrophic earthquake or nuclear attack. While it will never be possible to be totally prepared for such a catastrophic disaster, much can be done in developing plans for preparedness and operational coordination to reduce the potential damage, injuries and deaths which can reasonably be expected to result from such events."

Among improvements contemplated are the use of computer technology, modern communications, public education, a new emergency operations center, damage reporting and medical response at disaster scenes.

Eleven million people live within a radius of 60 miles of downtown Los Angeles and there are 82 incorporated cities in Los Angeles County alone. Add to that the disturbing fact that the megalopolis is hemmed in by the Pacific Ocean on the West and mountains inland.

A serious effort has been made and is being made to hew to federal and state civil defense goals, "but here, as throughout the nation, the program has been less than adequate for the needs. . . Few people who live and work in the greater Los Angeles area have suggested that the crisis relocation program, as currently presented, is a workable solution for this area."

The state CD director agrees "and has indicated that continuing evaluation may bring special solutions to help resolve the extraordinary problems."

Possibilities of supplementing the crisis relocation with anti-missile defense and blast shelter are also covered.

"Whether an adequate civil defense can be achieved," emphasizes the reports, "depends primarily on the level of national commitment. Federal leadership, focus and funding are essential. Protection against nuclear attack requires a strong national program, an informed public, essential systems in place and a crisis 'surge' capability to increase readiness quickly."

(See also "Los Angeles Wary of CRP . . ." in July issue of the *TACDA Alert*.)

Journal of Civil Defense: October 1982

THE RED MAGICIAN:

Is the Soviet A-THREAT a Myth?

BY HAL GORDON

The Russians aren't completely stupid... Their nuclear policy is almost identical to ours...

You may wish to readjust some of your survival plans after you read this article. The fact that an enemy, so dangerous as to make Adolph Hitler appear as a kindergarten teacher by comparison, has been able to fool the American public, the American press and many of our elected representatives into believing that it wants only peace, will give you some idea of what we're up against.

If you're waiting to read about it in the newspapers or see it over TV—forget it!

As I write this article, my desk is surrounded by an accumulation of reports, files and records on the communist strategy for taking over the world—over a half-ton of material. Combining this information with events taking place around

the world now, a frightening picture comes into focus and it isn't the nuclear threat.

In order to see clearly how the public is being misled, it will help to picture Russia as a master magician performing before a worldwide audience. Visualize a Russian bear, dressed in appropriate black tie and tails performing on a large TV stage for an audience of 4 billion people.

As even a small child knows, the magician must "cloud" your mind with a diversion of words, motions and hidden techniques. If you will gaze upon the magician you will observe he holds high in one hand what appears to be a genuine guided missile, armed with a nuclear warhead.

Tapping it noisily, the bear shouts, "As you can see, this is a real nuclear weapon

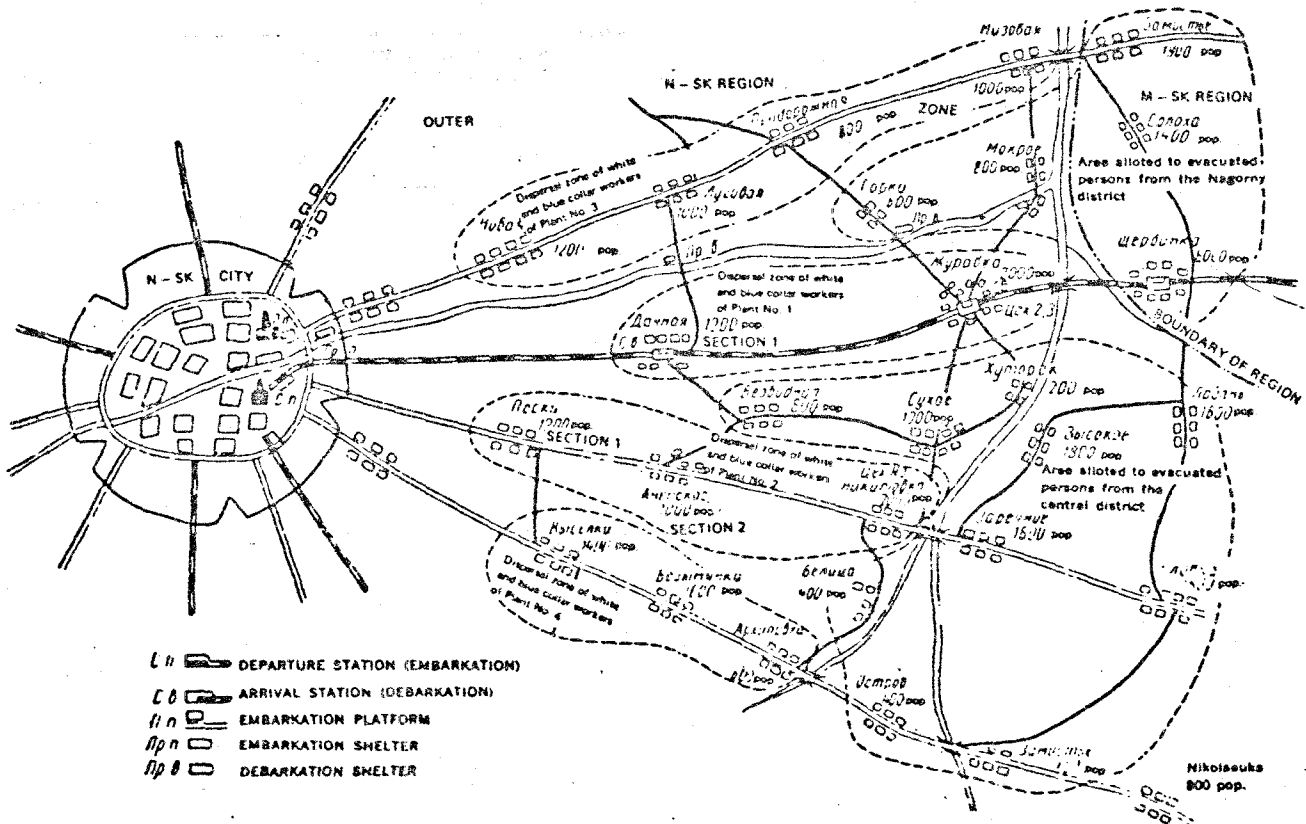
and you will notice that it is pointed directly at you!" You can bet the audience's attention is diverted.

In "knee-jerk" reflex, some members of the audience dive under their seats, while others wring their hands and plead for mercy. At this point, the typical audience isn't concerned with what the magician's other hand is doing and it's the other hand that we want to examine closely.

To see what the Soviets are really up to, let's look at this magic act through the eyes of a professional magician. The professional knows that the nuclear weapon threat causes our emotions and eyes to be diverted from the preparation for producing the intended surprise.

How does our expert know this? Be-

Fig. 29. Evacuation and dispersal areas.



Russian Evacuation Plan
Population in cities' central areas would be sent to industrial shelters outside metropolitan district. A percentage of downtown citizens could be accommodated by shelters located there.
(Translations noted by U.S. Government)

cause he has seen the act before and others like it. He knows all the basic tricks for producing the anticipated result. It's time we learned also.

First, the ultimate objective of the trick is for the communists to take control of the entire world. This has been their goal since before you were born—and it hasn't changed. Why?

The answer is very simple and basic to their needs. It is stated very closely in the communist "constitution"—their manifesto—that communism and capitalism (or freedom) can not co-exist.

Because the U.S. is the world's "showcase" for capitalism, and with other countries longing to enjoy the same kind of benefits, the communists will either have to change us or destroy us. They have no choice.

Surveys taken in the U.S. indicate not more than 25 percent of our citizens really understand this Russian goal. Because the Russians say they want to talk peace, everybody wants to believe them. It gives them hope. The news media probably feel it is their duty to cling to this false hope and not throw a wet blanket on any peace-making prospects.

Before advent of the nuclear bomb, Russia didn't have much to work with. To most people in this country, the Soviet government and way of life was simply a joke. The USSR sent many poorly trained agents to this country to try to convince Americans that communistic socialism was better than the American constitution. When this failed, they tried to get our attention through demonstrations and terrorism. Their only evidence of success was the capture of a few so-called intellectual minds.

After stealing U.S. nuclear bomb secrets and building their own weapon systems, the world suddenly had to take Soviet Russia seriously.

Russia knew that the Americans had grown so fat and successful that they would sacrifice almost anything to maintain their way of life. Soon the nuclear threats began. By this time the Soviets had built their worldwide spy and subversion network into a well-oiled machine that could influence almost any country at the highest levels. Their conventional war machine had grown to be even more powerful—at least on paper—than ours.

The wringing of hands and the pleading on bended knees for peace have started. The Russians are prepared to negotiate with us now on their *now* terms—or else! Is the "or else" really possible? Would the Soviets actually launch nuclear weapons in order to take us over?

The simple, unequivocal answer is, "No!" Here is why: The communists aren't

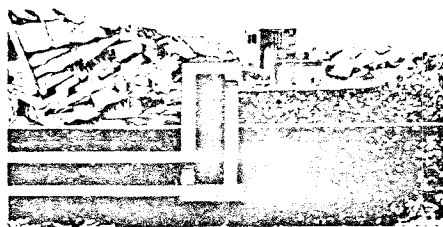


Fig. 126. Clearing the trap door with a sledgehammer.

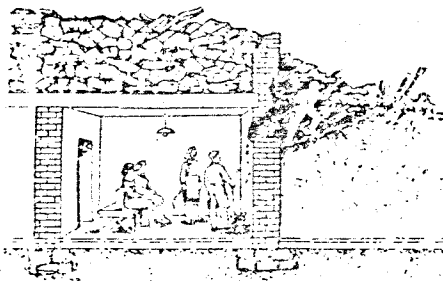


Fig. 127. Making an opening in the shelter wall.

These illustrations from a Soviet civil defense training manual point out that the USSR is going to great lengths to prepare its citizens. Virtually every citizen undertakes CD training. (Illustrations from official Russian publication.)

completely stupid. Translating their own reports and speeches, we find that their nuclear policy is almost identical to ours.

First, neither country wishes to enjoy the spoils of a nuclear victory. The probability is that there would be none.

Second, both countries will definitely counter-attack if hit by a first strike.

So far, we have a Mexican stand-off. But Russia had to gain some kind of nuclear advantage in the event the American people ever pulled their heads from the sand. So the Soviets did what the U.S. has not been willing to do. They built a civil defense program, complete with underground factories and citizen shelters. This was done at great financial sacrifice—estimated to be as high as one-half of the Soviet military budget.

Some of the evidence of these preparations can be seen in the accompanying illustrations from the Russian manual used in training each and every Soviet citizen.

Now, the Russians can say to our president, "We aren't afraid of your nuclear weapons because we can survive your attack, but you won't survive ours."

Has this changed the situation? No, nothing has changed. They have only gained a psychological advantage because the results of a nuclear war remain unacceptable to them.

Before you run out to find a buyer for your bomb shelter, let me assure you that the threat of nuclear war is still very real. But I believe that our main worry comes from another direction which I can cover in a future article.

Meantime, back to the Russian magician. Let's see what he is doing with that other hand. Then maybe you will push nuclear war to the back of your mind.

If you were the head of the communist party and had been fighting a war with America ever since the 1917 revolution, and you now find that you are finally on the verge of winning that war, would you start a disastrous nuclear war? Of course not!

Let's look at our situation now as a result of that "invisible war" which has been pulled off "right before your eyes."

In bringing his people up to date recently, Soviet Premier Leonid Brezhnev said, "Detente is only a temporary relationship with the U.S. The Russian people can expect wars and acute international crises. Military power will continue to be a decisive factor in Soviet foreign policy."

He is not speaking of nuclear war, but of conventional war. How is Russia waging this war? CIA director William Casey, who is involved in that war on a daily basis, answers the question in these words, "... the Soviets go in and exploit the underlying social and economic discontents, which are plentiful. This gives them a base. They feed it with trained men and arms. That drives away investments. The insurgents sabotage economic targets and so economic discontent grows."

As one who has followed Ronald Reagan's political career long before he became governor of California, I'm convinced that he is aware of the danger to our country. He recently hit the nail on the head when he said, "The ultimate determinant in the struggle now going on for the world will not be bombs and rockets, but a test of wills and ideas—the ideals to which we are dedicated."

That doesn't sound much like the nuclear Armageddon we read about in the press every day. Is there still a chance that Russia might just try a nuclear attack? One who should know is Dimitri Simes, a recognized scholar from the USSR who has told Americans that the Soviet doctrine "... unambiguously states that nuclear war is unwinnable and should be avoided."

The fact is that the Russian battle plan against America has never changed in over 50 years. Marshall Sokolovsky advises his people that, "The essential nature of war as a continuation of politics does not change with the changing technology and armaments."

In other words, Russia launched its war against the free world long before the advent of nuclear warfare and has never wavered since then. Their nuclear capability has simply given them additional leverage to accelerate their "conventional war" which includes murder, torture, lying,

spying, terrorism, subversion and, oh, yes, nuclear threats.

If you take the news of this Russian nuclear hoax as a comforting thought, consider the fact that they are now winning their conventional war and are drawing close to our borders. How can this be possible?

Let me direct your attention to the daily news. As the countries of the world sweat with fear each time Russia rattles her nuclear sabers, the Soviets simultaneously step up their conventional war while negotiating for "nuclear peace."

Perhaps you hadn't noticed. Over a few short years, the communists have gained effective control or strategic influence over Eastern Europe, the Mid-East, Africa, Central America and Cuba.

In the east, the Chinese communists have done the same thing with southeast Asia. Who does that leave to save the world? Realistically, it boils down to just the English-speaking nations. I'd call that a pretty effective "conventional war" with only pea-shooters and propaganda for weapons.

As the communist troops draw closer, the Reds are orchestrating worldwide peace demonstrations. Emotions are overriding clear thinking. Our leaders are forgetting that in the Russian dictionary, the word "peace" literally means "a period when all nations are subservient to Russia."

While the public pressures Washington to negotiate with the communists, Soviet troops are free to move without fear from the U.S. because we can't take any actions while in a "state of negotiations" — it would demonstrate bad faith.

The Reds' war against us faded into invisibility after World War II when the Russians learned two lessons from us.

First, they saw what an aroused American public could accomplish, starting from scratch, after the bombing of Pearl Harbor. Next, they learned the lesson again when American patriots began to expose communist agents and sympathizers in the 1940s and 1950s. After that, the party faded away into the woodwork and the American liberal was left screaming, "See, they were never there because you can't see them now."

To prove they are really nice people, the communist party was forced to disavow Stalin and Krushchev. But it is still business as usual, as stated by the Russian Col. Skirido in his book meant for Russian eyes, "... war is a continuation of politics by other, namely violent, means. Marxist-Leninists will always condemn imperialist (free world) wars, but still support wars for socialist gains."

From now on, keep score on our so-called unbiased press as it reports the various revolutions being stirred up by the

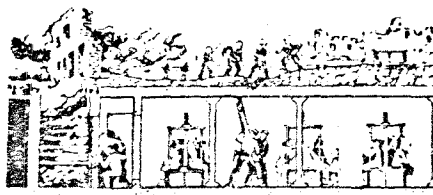


Fig. 129. Opening a shelter through holes in the roof.



Fig. 130. Extracting victims from rubble.

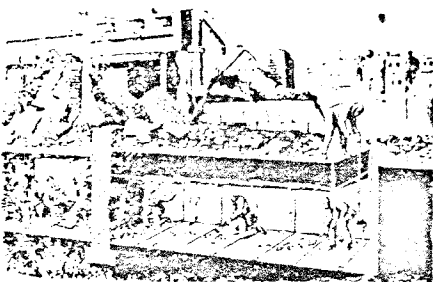


Fig. 129. Opening a shelter through holes in the wall made from an underground tunnel.

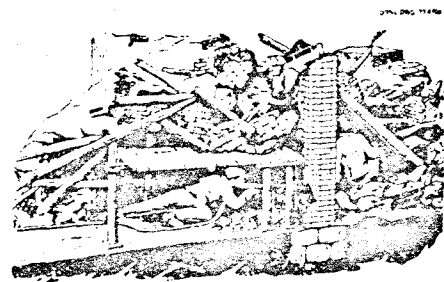


Fig. 131. Providing access into the rubble.

Soviet CD training covers workers and families who may not be near government provided shelter, and who may be trapped by blast effects. (Illustrations from official Russian publication.)

communists for "socialist gains." Is it reported in the story as "overcoming oppression?" Keep in mind that the communists consider a majority of our U.S. citizens to be "oppressed." If we attempt to aid a country to maintain its freedom or independence, does the press sum up the action by quoting a source who calls it an "imperialist aggression?"

Actor Ed Asner, who may be as sincere as Charley Brown, actually did us a favor by helping the communists in El Salvador. With counter remarks by Charlton Heston, the press was forced to admit that the communists are behind that revolution. The press was forced to do this! Maybe we need more Ed Asners and Jane Fondas to get the American public fired up.

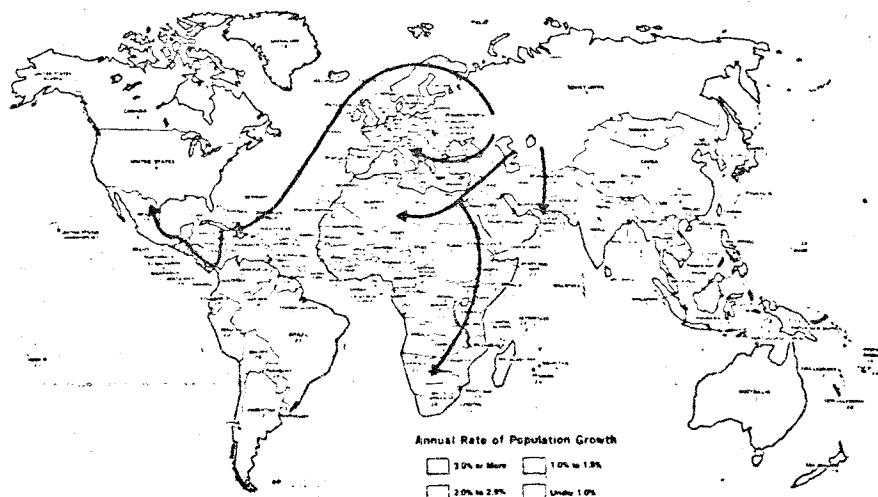
Now we can begin to see what our Soviet magician is doing with that other hand. It is about to scoop us up in a pincher move-

ment through Central America and, with the help of our own citizens, it is softening us up from within.

Forecasting events in our situation will be a valuable aid to your survival preparation. Now, do it yourself. Consider how lightning travels along the lines of least resistance. Understanding how the communists plan to exploit the poor in order to take control of a country and form an army to march on to the next country will afford you the opportunity to plot their path and progress as they move toward us — to our very borders.

Mind you, I'm not speaking euphemistically. I mean the actual southern borders of California, Arizona, Texas and the Atlantic shores. Does this shock you? Is it unbelievable? Let me reinforce your thinking.

The communists are irrevocably and openly committed to taking over the United (Continued on page 62)



Arrows superimposed on world population growth map show how Soviet Russia's non-nuclear attack has spread westward into Europe, southward into the Middle East and Africa, and across the Atlantic to Cuba first, then to Guatemala, El Salvador and Nicaragua. Obviously, Mexico is next.

States. They have tried to do this internally and so far have failed. But they have weakened our morals and constitutional values in the process. They have scared us into agreeing to almost anything—including disarmament. Their armies or representatives have or are about to take control of most of the free world. They are currently building up arms and armies in the line of least resistance—Central America. Cuba is supplying everything needed for the many revolutions, thanks to the Russian supply line.

Look at a map. Every Central American country is steeped in the tradition of revolutions. One more revolution is not really big news for that area—except that this time the newly installed dictator will be Russia. The only obstacle is the local military dictatorship which will be outmanned and outgunned.

In a much tougher situation, Russia took over Cuba with the help of the American press and many of your elected leaders. Castro was hailed as “the George Washington of Cuba” and as a hero for overpowering an “oppressive dictatorship.”

While informed citizens were yelling their heads off that Castro was actually a communist and that Russia would soon have a complete military base at the front door of Miami, their cries were drowned out by laughs of ridicule—again from the press.

Can you believe that the *same thing* is now happening to us? As Nicaragua, El Salvador and Guatemala fall, Mexico is the next country in the path of least resistance leading to the U.S. I can hear some of you saying, “But the Mexican government, along with the United States, would never allow the communists to take over that country.” I’m afraid it’s too late to even pose the problem. Events have already begun to unfold.

The only positive thing about the situation is that there has been a long friendship between the Mexican and American citizens themselves—even with the many social and language barriers. But the government is something else.

Admittedly operating on a system of graft and corruption, the Mexican government has not been overly friendly with anybody, with the exception of Cuba.

President Lopez-Portillo, near the end of his term last year, stated that Mexico must “... further tighten the links of friendship and cooperation that bind us with the revolution of Cuba and Nicaragua.”

While many Mexican citizens have complained publicly, the government has still allowed communist guerillas to settle or operate over the borders of Guatemala, dangerously close to Mexico’s vast oil supplies.

Although chosen in a free election, the president nominated by the “ruling party” always wins and, under the law, becomes a virtual dictator who answers to on one. In effect, every six years the elections change only the face.

Patriotic Mexican citizens are on the verge of a revolution. To the credit of the Mexican army and police, they have made some raids on communist cells and confiscated considerable arms and explosives coming in from Cuba. But, eventually, they will be overwhelmed by sheer numbers and arms. If you think this is far-fetched, picture this headline: “10,000 Communists Take Over City in Mexico.” Fiction? The story actually appeared in a Los Angeles newspaper about four years ago. Headlines? No, the story was buried among advertisements on an inside page.

This was no little adobe village, but a modern suburb of Mexico’s largest industrial city. The reaction of the government? The leadership decided it would be easier to let the communists have the city, lock stock and barrel. The only aspect which seemed to bother the government was that the communists refused to pay taxes on their newly acquired property.

If you were going to call the shot on Russia’s move into Mexico, remember that the Reds can’t operate successfully among a satisfied population. They must have a discontented population to whip into a frenzy. If the economy is strong they must weaken it.

In keeping up with the financial news, which is usually more accurate than the political news, you may be aware that Mexico is going through its worst economic crisis in memory. The peso has plunged to around one cent on the dollar (at this writing). The U.S. is dumping \$1 billion into Mexico’s lap to help save the country. Many times the usual numbers of illegal Mexicans are crossing our borders—in desperation.

Watch Mexico closely!

What happens when the “new Cuba” forms up right against our border states? I think that’s the time when some sleepy neighborhoods in the United States are going to take another look at that word, “Survival.” ●

Eve

9051 Via Amorita Avenue
Downey, California, 90241
November 3, 1981

Mr. Robert K. Brown
Editor/Publisher
Survive Publications Inc.
5735 Arapahoe Avenue
Boulder, Colorado, 80303

Dear Mr. Brown:

A friend has just loaned me the premier issue of SURVIVE, and so far I've found time to read just two of the articles. The first, Bruce Clayton's Nuclear Nonsense, does a good job of correcting some of the misinformation on the effects of nuclear war. I decided to order a 12 issue subscription, but then I read Brownell and Zehring's article Civil Defense: America's Ugly Duckling. Being as Mr. Zehring is involved in the sale of shelters, I can understand his bias toward that form of nuclear protection, but in-place shelters are not the total answer, and the article contains considerable incorrect data on crisis relocation programs. What we don't need in times such as these, is misinformation.

In speaking of civil defense in the Soviet Union, the authors state the Soviets have "enough shelters and equipment to protect a majority of the citizens of the USSR." The July 1978, CIA report titled Soviet Civil Defense, is then cited as being in agreement. I think Brownell and Zehring should reread that document, as it does not agree, and in fact states just the opposite.

Page 2 of that report states that blast shelters have been provided for the leaders, but factory shelters can accomodate only 12 to 24% of the work force, and in a crisis, nonessential and off-duty workers would be evacuated. At the writing, a minimum of 10 to 20% of the urban population could be sheltered. By 1985 the figures would rise to 15 to 30%, but really less because of the expected increase in population. The last paragraph on page 2 states, "Only by evacuating the bulk of the urban population could they hope to achieve a marked reduction in the number of urban casualties." On the subject of the Soviet evacuation program, I might also refer you to NUCLEAR WAR: A SOVIET OPTION by O. C. Boileau in the fall 76 and winter 77 issue of Foresight; and WHY THE US WORRIES ABOUT NEGLECTED CIVIL DEFENSE by Michael Satchell in the May 21, 1978 issue of Parade.

The Soviets are relying on evacuation plans to save the bulk of their population, and as early as 1972 were conducting limited evacuation drills. Our military planners now feel there is slight chance of a surprise Soviet strike

on the US because it would leave their urban population exposed to our missiles. If the Soviets intend a first strike, it is most likely they will evacuate their cities first, an operation that could take upwards of a week. Our intelligence should be able to detect that movement, giving us the minimum three days needed to evacuate our cities.

Our first evacuation plan under the current program, was drawn up for San Antonio, Texas in 1973, but it wasn't until 1979 that all of our states had started on planning for evacuation. The east coast and California presented special problems because of high population concentrations and special studies were required. I am the instructor for two different disaster and survival groups, and have read the rather lengthy feasibility study for California, completed in 1977, and the more recent draft of the California Crisis Relocation Plan that is still under development.

I'm not familiar with the evacuation plans of areas outside California, but assume all would be basically the same. If so, I have my doubts about the statements said to have been made at a civil defense conference in Massachusetts, namely that local police would be responsible for carrying out evacuation plans. First, there aren't enough policemen, and secondly, phase 2 of Crisis Relocation Planning involves the training of personnel to actually carry out the plan. Police would only be a part of this group.

As to the policeman who said he wouldn't stay because there was no plan to take care of his family. I again assume that all plans are essentially the same. The California plan provides for evacuation of essential workers and their families to the nearest host area. These workers will then commute to their jobs by bus, or a form of carpooling. The best of the shelters in the urban area will be used for workers on duty. Fuel for evacuation does not seem to present too much of a problem in the California study.

I have to agree with most of the criticism of our civil defense program set forth in the article. Our program is in lousy shape with too much naive thinking, some of it straight out of Alice in Wonderland, and especially in dealing with recovery after atomic attack. I should also point out that crisis relocation relies on shelters too, but not the in-place kind sold by Mr. Zehring. Evacuees will be expected to work on the construction of temporary shelters by using dirt and existing commercial structures in the host area.

Crisis relocation planning has its flaws too, not the least of which is the fact that only 16% of the needed plans had been completed by 9-30-80, but it is hoped that by October 1983, all areas in the US requiring CRP will have a full plan, or a mini-plan. The latter being a partial but operational plan.

Because of the lack of interest, cost, and tax factors, the average individual will not build a shelter. Public shelters that are properly equipped and stocked, keeping after fallout survival in mind, aren't economically feasible in the short time left to us. The fact remains that the Soviets are relying on an evacuation plan. You may not think it will work, but that's not important. What is important, is that the Soviets think it will work and we urban dwellers better not be home when they put it to the test.

Yours truly,

Bud Baal
Downey, California

#15

CRISIS RELOCATION PLANNING IN CALIFORNIA

Following World War II, the Soviet Union developed a nuclear war capability, and our government reacted with an evacuation program to remove people from target areas in case of attack. If time permitted, an hour or more, evacuees were to go to prepared reception centers outside the danger zone. If the pre-attack warning allowed less than an hour, citizens were to take advantage of any existing shelters, or improvise protection from fallout. Programs were developed locally, and street signs were posted to indicate evacuation routes. Though some studies were made, it was concluded that it was impossible to evacuate the larger cities.

In the 1960's, the civil defense program stressed fallout shelters, both public and private. Due to the stage of development of the Soviet missile guidance systems, it was felt enemy missiles were only capable of hitting somewhere near our missile sites, and that the main hazard would be the resulting fallout. Homeowners were urged to install underground backyard shelters, but such were expensive, and being as they were considered an improvement, taxes went up accordingly. Needless to say, the home shelter program was not very successful.

Starting in 1966, a survey was conducted to identify areas in public and commercial buildings that could be used for public fallout shelters. These areas were usually in basements, or on the ground floor of windowless structures. Where such shelters met the criteria, the federal government provided stocks of food, water containers, sanitation kits and medical supplies. Shelter signs were posted at the entrances to these structures, but seldom were enough shelter spaces found to protect the local population in case of attack.

By 1973 the Soviets had gained the nuclear advantage. They have continued to expand this superiority, and now have missile guidance systems that are extremely accurate. It is estimated that by the mid 1980's the Soviet missile arsenal will have a large margin of superiority over that of the United States, but of what use is this superiority if we both already have the capability of obliterating each others cities? Our government has relied on the MAD doctrine (mutually assured destruction) to maintain a strategic balance. Unfortunately, the Soviets don't ascribe to this doctrine, as made obvious by the continued expansion of their nuclear capability far beyond parity.

Since the 1950's, the Soviets have been looking for a means of exploiting this planned for superiority by limiting their losses of population and industry in a nuclear exchange. As early as 1972, they were testing means of transporting their urban population out of the cities prior to an expected attack. A 1978 CIA report estimates that the Soviets can evacuate their cities in from 2 or 3 days to a week or more, depending on weather and availability of transport.

Evacuation, plus a program of industry dispersal, is seen as a tremendous strategic advantage by the Soviet military planners. Will their plan work? I'm afraid that's not the point. As long as they think the plan will work, we are in danger of their exploiting this advantage, real or not. They already have nuclear superiority, and an operating evacuation program, while ours is still in the planning stage. Though figures vary, at this time we could lose as many as 160 million killed, while the Soviets lose only 5 million in a nuclear exchange.

How do we counteract this advantage? Obviously, the only way is to adopt a relocation plan of our own as soon as possible. Once we have an operational plan, the Soviet advantage is nullified as far as protection of population is concerned, and there is less likelihood of a nuclear exchange. With the cities on both sides vacated, there is the possibility of further negotiation rather than war. We must also remember that nations other than the two super powers also have nuclear weapons, and more will have them in the future.

In 1973, a prototype plan was drawn up for the evacuation of the City of San Antonio, Texas, resulting in information that led to the writing of the first planner's guide. This was followed by 8 pilot projects for other cities, and in 1976 the Defense Civil Preparedness Agency started working with the various states on evacuation plans for their cities. By March 1979 all states were working on relocation plans with funding supplied by the DCPA. The new programs will require little advanced preparation by the general public, and will be adaptable to natural and other peacetime disasters. CRP, crisis relocation planning, would also be of value with the increasing possibility of terrorists planting a bomb in one of our large cities, and then threatening to detonate the device unless certain demands were met within a specified time.

You might well ask, if we're going to get out, is there enough time before the missiles land? In a surprise attack, no. Travel time for missiles from launch to target is too short a period for you to reach an area of safety, but likelihood of a surprise attack is now considered low compared to earlier periods. Instead of a matter of minutes, it is now felt that there would be several days, or even weeks of mounting tension before the point of nuclear exchange was reached. Prior to reaching this point, the enemy would begin evacuating their cities. Hopefully, our intelligence would be good enough to detect this movement as soon as the relocation started, and our plan could be activated.

Admittedly, there have been problems with planning for California. Most areas of the country can relocate rapidly with few problems, but this is not the case with California and the Northeastern states, and special studies were needed before planning could begin. The special study for California, entitled "A Feasibility Study of Crisis Relocation Planning for California," containing over 300 pages, was completed in August 1977, and has supplied most of the information for this article.

In order to decide on who must be moved to safety, the importance of targets had to be decided. The prime targets of course, would be our missile sites. The second most important category would be other military facilities and supply bases, plus industry that directly supports the military. The third category would be industrial and economic centers that are important to our national economy, and all cities of over 50,000 population or more that were not included in the first two categories.

The actual criteria for determining the degree of risk, is the force of a nuclear blast, and the resulting fallout dose over a 4 day period. A blast pressure of over 2 pounds per square inch and/or expected fallout of 10,000 roentgens or more, would place an area in the high risk category. Now 2 psi sure doesn't seem like much pressure, but look at it this way. Take a piece of glass 12" by 12". That's 144 square inches. If you placed a weight of 288 pounds on it, do you think the glass would shatter?

As it turns out, 2/3 of our nation's population falls into one of the three

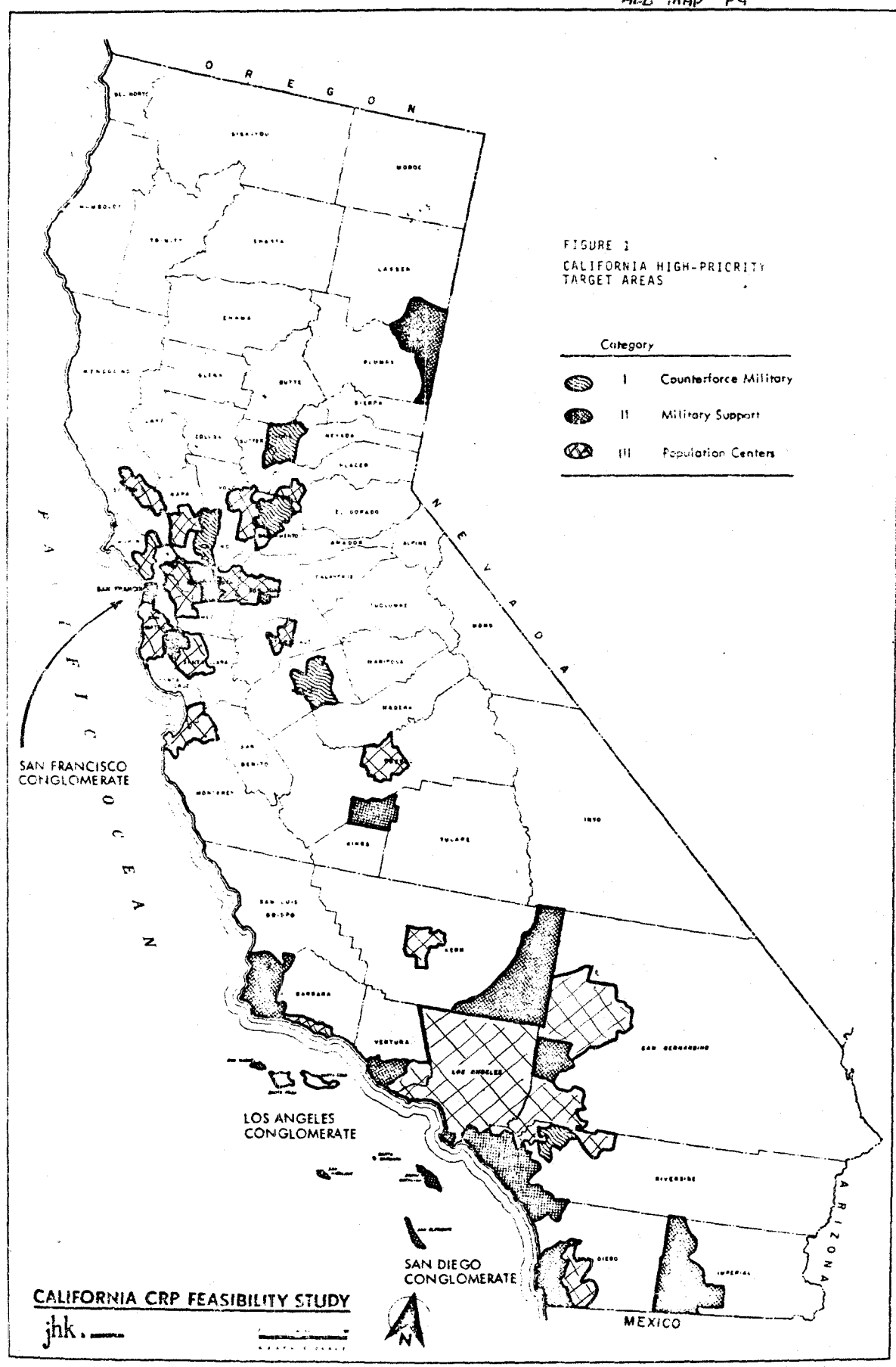
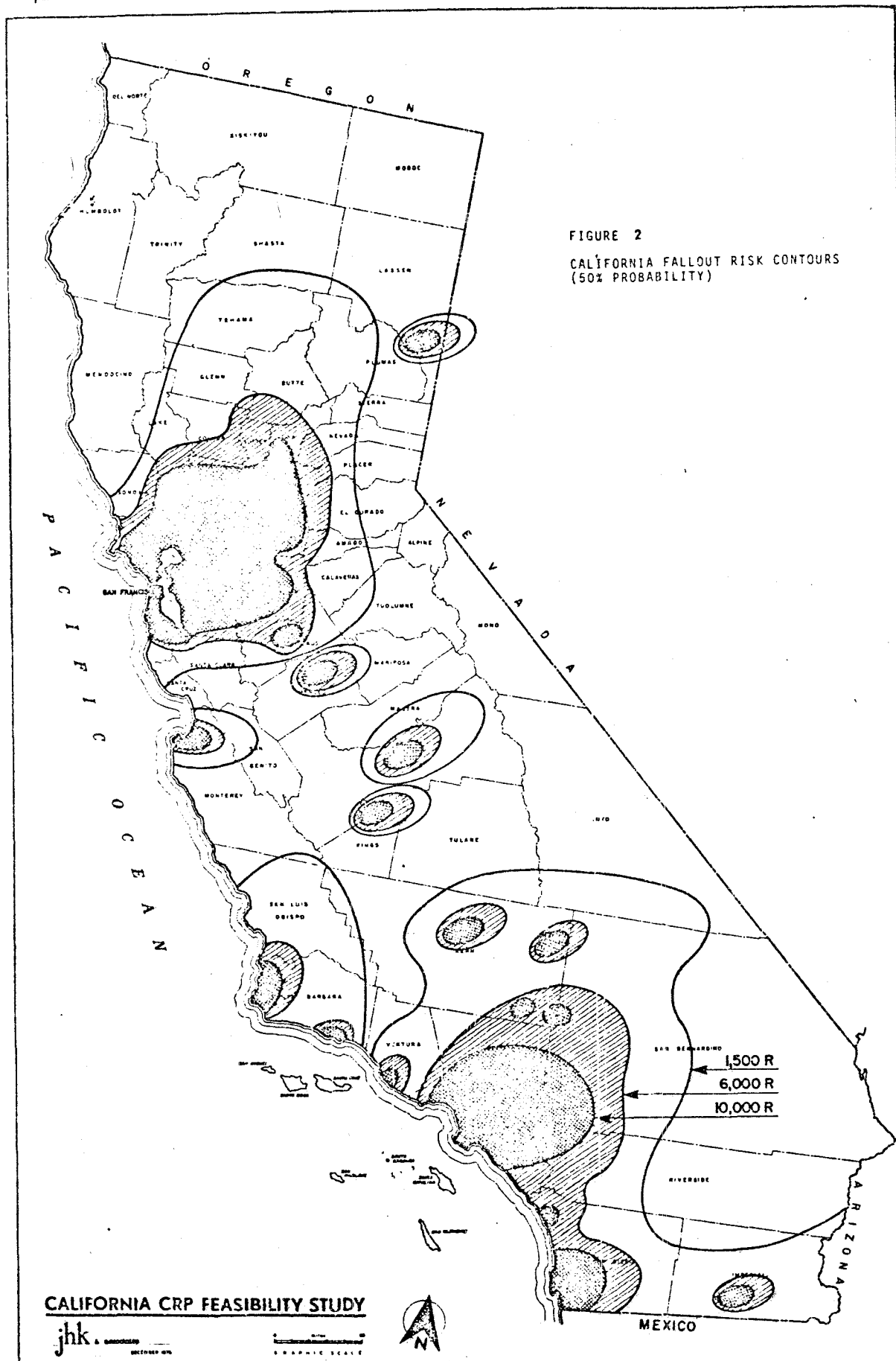


FIGURE 1
CALIFORNIA HIGH-PRIORITY
TARGET AREAS

CALIFORNIA CRP FEASIBILITY STUDY

jhk.



categories, with the ^{now 80%} degree of risk varying with nearness to the target. In California, about (87%) of the population lives in a high risk area, the highest percentage in the nation. Of the risk population, 93%, over 17 million, live in the three metropolitan areas of San Francisco, Los Angeles, or San Diego. The remaining high risk population, over 1 million people, are scattered over 9 counties. This means that in case of pending attack, about 18½ million people would have to be relocated to the low risk areas where there are now only 2.6 million residents, or a ratio of about 7 guests for each host. From this it is obvious that tremendous transportation and support problems can be expected, and is the reason a special study was necessary.

The feasibility study is assuming attack by the maximum number of Soviet missiles against all three categories of targets. An air burst gives high damage below, while a low altitude detonation (ground burst) results in higher fallout levels. It is quite obvious that a single missile can't be both, but the plan is figuring the worse effects from both in order to overstate, rather than understate the problem. It is also being assumed that 100% of the risk population will be moved during the relocation period (percentage is expected to be actually less) with the objective of getting everyone out in 3 days or less in order to equal the assumed ideal Soviet evacuation time.

It is assumed that the order to evacuate would be initiated by the President after a period of mounting crisis. Notice to evacuate would be spread by the news media, with newspapers having information pre-set in type, radio stations using prerecorded tape while TV stations would use video tape to give instructions on routes, destinations, etc. There will also be local officials on the streets to tell you where to go, and what routes to follow. Remember now, we are not talking about a matter of minutes to make your escape, but at least 3 days, so there is no need for panic. If your family has more than one car, it is assumed you will take the "first car," and there is plenty of time to get it gassed up and packed with food and other necessities. How long you will be gone is uncertain, but better plan for two weeks, or possibly longer.

Some people may not wait for the official order to evacuate, leaving as soon as it appears a serious crisis is about to develop. If you have friends or relatives in a safe area that you can stay with, or perhaps such as a vacation cabin, it would be wise to go there before the order is given. Once the evacuation is started, it may be difficult, or even impossible to reach your chosen destination. It is estimated that as much as 30% of the population might evacuate spontaneously before the official order is given. On the other hand, there is expected to be a small percentage, termed "stay puts," who will refuse to leave when evacuation is ordered.

Transportation arrangements will be made for those who don't have autos, and can't get a ride with friends, or relatives. About 13% of the households in target counties, about 2.3 million people, do not own an automobile, but I'm assuming many of these are the elderly, at least part of which will make their own arrangements for transportation. Also included in this 13% are RV and pickup owners, whose vehicles no doubt will be used in the evacuation.

Though the automobile is by far the main means of transportation in California, there are still buses, trains and aircraft that can provide transportation for evacuees. The scheduled aircraft fleet in the state could move 900,000 people in 3 days, and the railroads, using passenger and freight cars, could move as many as 750,000 in the same period, using only a small part of the cars avail-

able, and with trains shorter than the average freight train. Evacuation by ship isn't covered in the study, probably because all ports of landing would be in high risk areas. The study has considered pleasure craft though, but those large enough for open sea travel have a maximum evacuation capacity of only 300,000.

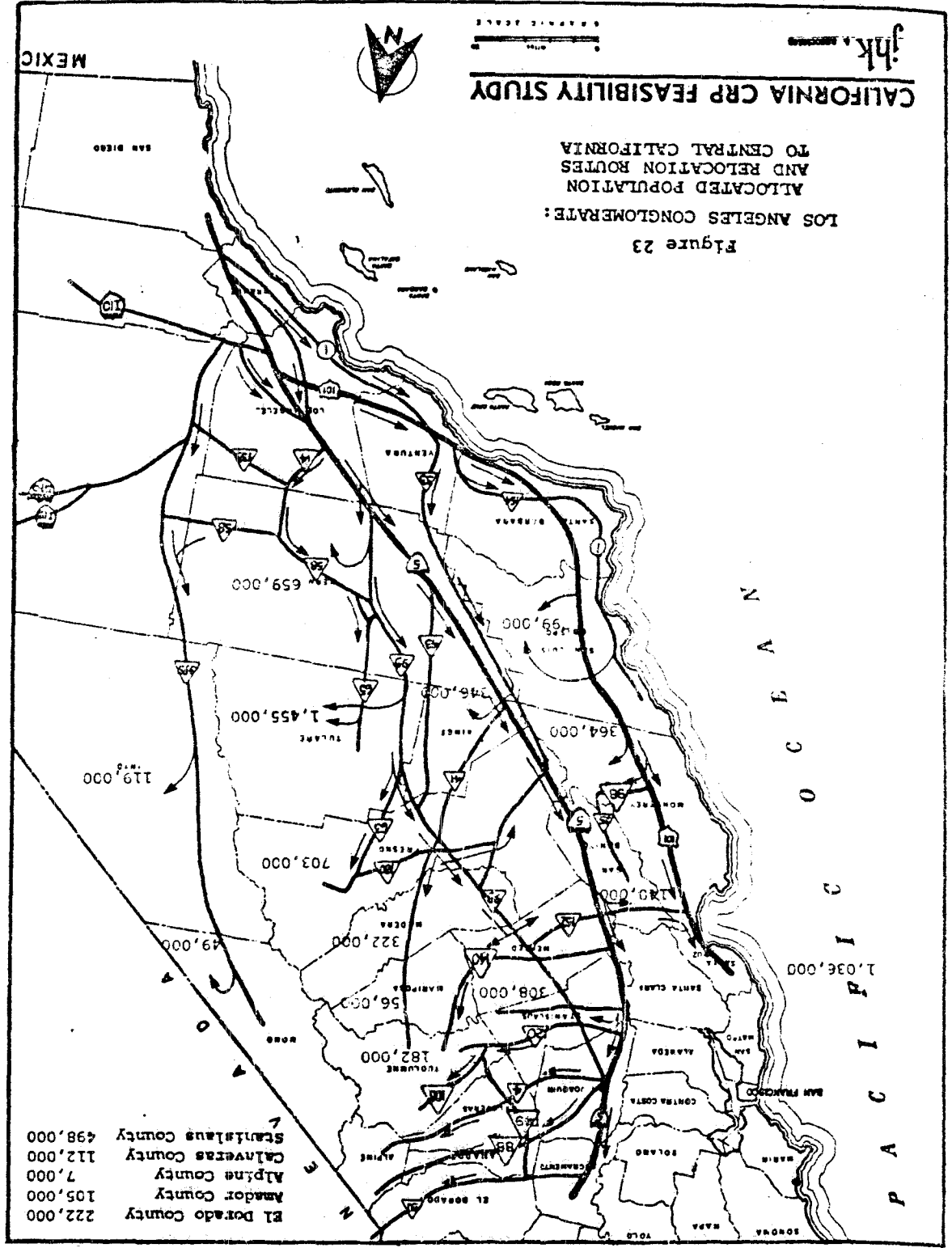
Once you are told to leave, the next question is where do you go. In general, everybody in the state will shift north, even to the point of nonessential local residents being moved north to make room for those coming from the south. In order to minimize food, housing and other support problems, the study suggests a plan that provides for "uniform hosting," or as close to 7 guests for each local resident as possible. To reach this end, uniform travel times and distances are also required. Because of this fact, you may be required to drive by a host area in order to reach your assigned area farther on.

changed { All of the Los Angeles basin is a high risk area, and almost all residents will be moved to the Central Valley or the Central Coast. If you are assigned to the Central Valley, your trip will be 350 to 400 miles. If to the Central Coast, you will have 230 to 340 miles to cover. The Los Angeles area has the longest evacuation trips, and it is quite obvious vehicles will require refueling enroute. The study assumes autos get an average of 15 mpg, a debatable point, especially with the possibility of fuel waste while standing still in a line of stopped traffic. Fueling points will be established along the routes, including provisions for fueling directly from tank trucks where necessary.

figuring
40 *sq* Your destination will be a small town where you will be housed in such as schools, churches and other nonresidential structures that the study refers to as "congregate care facilities." Using a 1975 study of 10 California counties, it is estimated that only about 29% of the evacuees could be accommodated in such housing if allow 40 square feet per person. Fallout shelter spacing has previously been set at only 10' per person, and if this figure is used, all evacuees can be housed. Living quarters would be cramped, but you would be free to go outdoors, at least until it became necessary to take shelter from fallout.

There is the possibility of evacuees being taken in by local families. Though it is official policy not to use private residences, this factor was still studied, and the report estimates that 50% of local families will take in 3 families each. Though not figured in housing requirements, the study does recognize that some families may prefer to camp out, weather permitting, and thus actually reduce congregate care requirements.

Food
water 3
day supply
min. → Now that you've reached your destination, and been shown where to sleep, how about food and water. First, when you leave home, you will be expected to take along the food you have at home, hopefully a 2 week supply. The study estimates that 60% of the evacuees will bring a one week supply. You should have at least enough food to last you during the trip and for a few days after you reach your destination. The study estimates that food carried by evacuees and that in host area stores will be enough for 6½ days. By the fourth day of the evacuation, community feeding programs should be in operation. You would have sit-down meals in existing facilities, two meals a day, with a 20 minute eating time. It is assumed that on the average, 13 hours a day will be required to serve the 2 meals. You will be on normal rations, with one cold and one warm meal, both either a one dish meal, or a prepared plate.



Food production would have to continue, going from producer to processor to wholesaler to retail store in the host area. The study recommends that the order in the food chain remain the same except for the last step, delivery to the retail outlets. In the case of evacuation metropolitan deliveries from the wholesaler would cease. The problem here is, 2/3 of the wholesale food distribution in the state originates in Los Angeles. With the chain remaining the same, it would mean food would travel from the low risk producing area to the wholesaler in the high risk area, and then back to the retail outlets in the low risk host areas. The reason stated for this, is the the processors claim they are unable to handle individual orders. Their normal production goes to Wholesalers in large lots. It is also claimed there would be a lack of warehousing in the host areas. Moving the population also means moving the food they eat, but the study shows there are sufficient trucks and rail cars to move both food and other vital supplies.

Will there be enough water? Yes, but you may have to forgo your morning shower. Rural dwellers daily consumption of water is 350 to 400 gallons per capita, compared to the city dwellers 200 gallons. The study estimates that 20 gallons per person per day is ample, and could easily be as low as 10. If necessary, agricultural water can be used, and though agriculture is a key industry, human needs would come first.

Though the report doesn't say so in so many words, apparently conventional toilet facilities would be used. The capacity of sewage plants is discussed, and it is expected that treatment systems will be overtaxed, but it is felt that in most areas the water supply will not be contaminated by short term incomplete sewage treatment. Hopefully at least primary treatment can be provided, and this coupled with purification chemicals for water systems should prevent disease problems in most areas. In some areas contamination of water is expected even with purification, and the study states the problem must be looked at in later phases of the planning.

As already mentioned, wholesale grocery warehouses will continue to operate in the risk areas, requiring warehouse workers to keep the food moving. Other essential industries and services would have to be maintained, all requiring manpower. The study estimates that as much as 20% of the work force, 8% of the total population, or about 1½ million California workers could be declared essential. Now this doesn't mean you might be declared an essential worker and have to remain behind. You and your family would be evacuated, but to the nearest safe area. About 70% of the Los Angeles area key workers and their families would be housed in Riverside County, with the workers commuting each day by bus and carpool for 12 hour shifts.

With the bulk of the population evacuated, the best blast and fallout shelters would be selected for the key workers on duty in the risk area. The key workers transportation, bus or auto, would remain with them on the job, ready to move them to shelters, along with the "stay puts." The study is not too specific on the criteria for key workers, and no dividing line is drawn between essential and non essential operations.

Host areas should not have to worry about blast damage if the missiles do come, but there is still the fallout problem. Fallout levels in 95% of the area in the 29 counties outside the risk areas is expected to range from 0 to 6,000 roentgens over a 4 day period. High risk areas can expect 10,000 and above.

Realistic minimum fallout protection would reduce the 7 day dose to 150 to 250 roentgens. This would still mean some shelter occupants would require medical treatment, but treatment requirements could be reduced considerably if the exposure were held to the lower limit of 150. It is already known that there aren't enough fallout shelters in the host areas to house all the locals, let alone 7 times that number. To correct this deficiency, protection can be provided by sandbagging and mounding earth around the structure you are being housed in. Able-bodied person would be put to work upgrading structures to be used for shelters, mounding earth against the walls and piling dirt on the roof, or on the second floor of a multiple storied building.

In some areas of low fallout, structures can be used without additional dirt shielding. In other areas, there may not be enough shelter spaces, and makeshift shelters may have to be constructed. The study terms these "expedient shelters," holes dug in the ground and covered with earth, or constructed A frames with dirt shielding. The study also considers the use of home basement shelters, but the figures on the number of residential basements in the state were taken from census figures and may not reflect the number of true basements.

What about medical needs, especially concerning those that are in the hospital when the order to evacuate comes? First of all, on the average, only 50% of urban hospital beds are occupied at any one time. Using figures for the Christmas holidays, hospital admissions drop by half because elective things like having tonsils out can wait a week or so. It is expected that during a crisis people will put off what is termed elective treatment. It is also estimated that about 50% of inpatients could be discharged, another 40% moved to host area hospitals, leaving only 10% to ill or incapacitated to be moved. These would have to remain hospitalized with a minimum staff, or be moved a short distance to a "central hospital."

For the 40%, about 25,000, being moved to hospitals in the safe areas, there are only about 4500 available beds. This means temporary hospitals would have to be set up nearby, and it may even be necessary to keep open some hospitals on the fringe of the risk areas. *Overcrowded hospitals*

Previous studies indicate there would be an increase in communicable diseases among the evacuees, especially if they were living in crowded and unsanitary conditions. An increase can also be expected in stress related problems, plus an increase in injury and illness due to city dwellers doing such as pick and shovel work to construct fallout shelters.

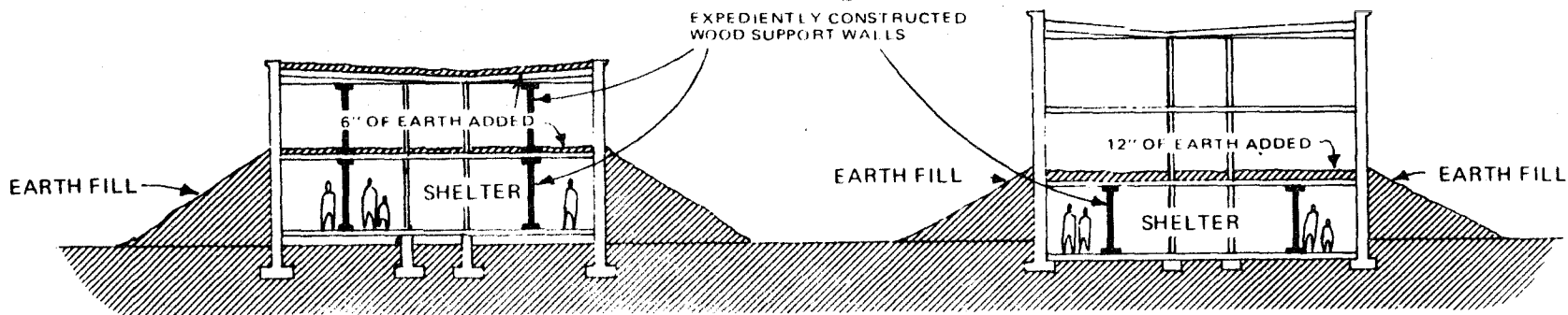
A more serious problem is the fact that the rural hospitals of the host areas aren't as well equipped as those in the metropolitan areas. A very seriously ill or injured person in a host area may have to be taken to a larger hospital in the risk area. This can mean an average trip of 200 miles, or 40 times farther than the average urban run of 5 miles. The resulting delay can be expected to be fatal in many cases.

The plan seems to consider all facets of removing and supporting the population, but the question still remains, can we get everyone out within the 3 days? The answer is yes, but a qualified one. We can actually evacuate some areas in less than 3 days. It is estimated that the San Diego area can be evacuated in half that time, only a day and a half. As for the other two metropolitan areas of San Francisco and Los Angeles, all could be moved to nearby safe areas within

fallout protection in school buildings



EXISTING SCHOOL BUILDINGS CAN SERVE AS CONGREGATE CARE FACILITIES FOR RISK AREA EVACUEES. BEST FALLOUT PROTECTION CAN BE FOUND IN INTERIOR CORRIDORS AND ROOMS ON THE LOWEST FLOOR, ESPECIALLY IF THE SCHOOL HAS TWO OR MORE STORIES AND THE EXTERIOR WALLS ARE OF CONCRETE OR MASONRY CONSTRUCTION. FALLOUT PROTECTION CAN BE IMPROVED BY FIRST EXPEDIENTLY CONSTRUCTING A WOOD SUPPORT WALL AT THE MID-SPAN POINT AND THEN PROVIDING ADDITIONAL VERTICAL AND HORIZONTAL BARRIERS OF EARTH AS SHOWN IN SKETCHES. WINDOWS IN EXTERIOR WALLS THAT ARE TO BE COVERED WITH EARTH SHOULD BE PROTECTED WITH LUMBER OR PLYWOOD SHEETS SO THAT THEY WILL NOT BREAK UNDER THE EARTHFILL.



NOTE:
ADDITIONAL VENTILATION WILL BE REQUIRED SEE DESIGN OF AIR VENTILATION PUMP

Initial relocation in no more than 7 days

-12-

The 3 day period, but it would mean a hosting ratio of as high as 12 evacuees for each local in the safe areas near Los Angeles. Such of course would produce a considerable increase in support problems.

* The study recommends that uniform hosting ratios of 7 to 1 still be maintained, even though it will mean 4 to 7 days to evacuate the Los Angeles basin because of highway bottlenecks outside the metropolitan area. In spite of these bottlenecks, 70 to 75% of the evacuees will be out in 3 days, and every effort will be made to get the rest evacuated in no more than an additional 2 days. There are alternatives that could be used to speed up evacuation, such as making all lanes of highways "outbound," but such would interrupt the flow of supply trucks and possibly hamper military movements.

It should be kept in mind that the study assumes a 100% evacuation, when in actuality it is known this figure will be somewhat less, and thus the actual evacuation time somewhat shorter than the estimates. As much as a 30% spontaneous evacuation is expected prior to the official notice. As to the "stay puts," it is difficult to assess just how many will refuse to leave. In past natural disasters, the figure has been about 20%, but under a nuclear threat, the percentage would no doubt be considerably lower. The study is estimating that 20% of the population will remain behind, but this figure includes both key workers and the stay puts.

→ The feasibility study is just that, a study. It is not the final plan, merely a guide for further research on the part of state level planners. As of October 30, 1979, only about 20% of the data needed for the drafting of an operational plan had been accumulated. Some progress has been made though on plans for Riverside, San Bernardino and Merced counties. These three areas have both risk and host areas within their boundaries. Hopefully, the plans will be completed by the spring of 1980, and if such appear workable, they will serve as the prototypes for the rest of the state.

The study based many of its assumptions on a study of only 10 California counties, and the conclusions drawn must be double checked. Being as the document was completed in August 1977, some of the statistics have become outdated in the interim. As an example, vehicle fuel studies included totaling the number of gasoline service stations in the state, but we all know a large number of stations have closed since the report was written.

One of the problems the planners are considering, is the question of just how much government will be evacuating with the people. At least a portion of local government, administrative, fire, police, etc., will be leaving with the people of their jurisdiction to provide assistance in the host areas. The problem is not covered in the study, but the 1962 plan for the City of Freemont, California covers the evacuation of their city government, and possibly could serve as a guide for other cities. Freemont's plan, which appears easily up-dateable, provides for succession in all key city positions, preservation of records, and even designates the cities of Livermore or Tracy as alternate seats of city government.

As previously stated, California's planners are being paid from federal funds, and with the continuation of such funding, the state's evacuation plan should be completed by 1985. Perhaps even more important, is the funding to develop what the study terms "supporting systems." More plainly stated, training rad-

iological personnel, protected emergency operating centers, protected broadcast stations, training exercises, and an extensive training program. All this will be necessary to assure an 80% survival rate, and will have the additional benefit of improving organization for natural disasters.

In closing it should be pointed out that the feasibility study and the eventual operational plan cover only evacuation and support of the population up to the point of entering fallout shelters. If a nuclear exchange should take place, what do you do after it is safe to come out of the fallout shelters? To quote the feasibility study, "In the event of an attack, the relocation could then evolve into a form of resettlement of undetermined duration."

Bud Baal
December 1979

add plan note on recovery.



Without knowing the enemy, there's no sound method for planning either offense or defense . . .

Those who are serious about making definite plans, should consider retreating

For example, a fully equipped steel reinforced bunker which is 10 feet below ground level may become, when subjected to a near-direct nuclear blast, 200 feet short of its required depth. Even a determined roving band of "good-ol'-boys" looking for a little fun could probably penetrate your walls with a shovel, box of blasting get and a cutting lance fueled by oxygen and acetylene gas.

As you look at the following list, visualize yourself in each situation and imagine what you could do to protect yourself. For each solution you come up with, provide yourself with another one as a back-up plan.

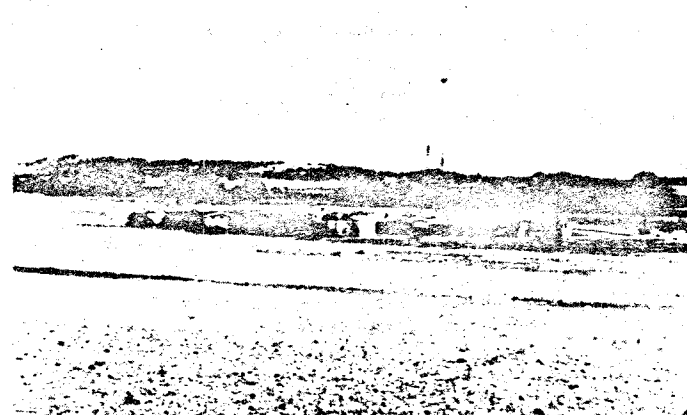
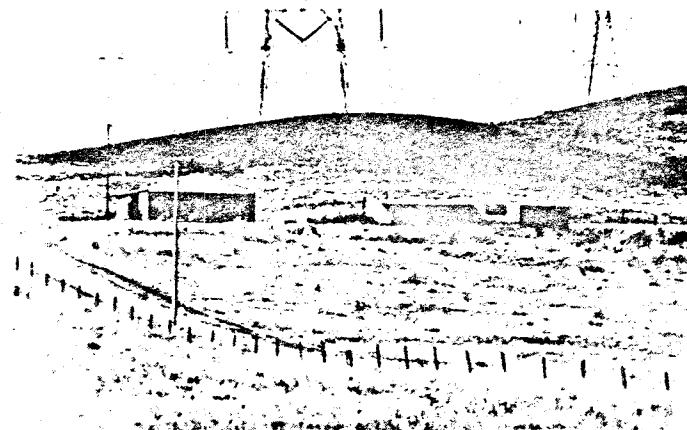
Economic: Shortages of food, shelter, energy raw materials and other needed hard goods. Transportation interruptions strikes, unemployment, inflation, depression, recession, high taxes, national or international bankruptcy. Industrial, agricultural

OPPOSITE PAGE— Earthquake frequency, annual rainfall, prevailing wind direction/velocity, winter snowfall, population density, and possible disruption of transportation and food supply are graphed, charted and mapped. All should be considered when selecting a retreat site.



TOP— Those tire tracks slant toward a fence, innocent looking, but the wooden fencepost conceals a lever that releases barbed wire strands to permit entry.

ABOVE— Steep bank and dropoff on either side of the gate add to security. Major effort can go into a sturdy gate.



TOP— This rural mobile home location could prove inexpensive and utilitarian. But there's a major flaw. Can you spot it?

ABOVE— Mini-subdivision has paved streets and streetlights. It is populated mainly by relatives and friends. This could be a survival city.

and auto pollutions through air, water and land—including noise pollution.

Natural: Floods, volcanoes, earthquakes, famines, epidemics, pestilence, climatical extremes, tidal waves, fires, and personal health—including stress.

Governmental: Emergency laws restricting freedom, price and wage controls, dollar devaluation, martial law, food storage, holding gold or silver, travel, public gathering, political views, religious views, economic views and employment restrictions.

There are many ways to prepare and combat these potential hazards and the methods you choose will depend largely upon which dangers you believe may affect your personal life the most. To give you something you can get your teeth into I'll break down the many retreat possibilities into six categories and discuss each one briefly. They are permanent, group, mobile, boat, foreign and home retreats.

Permanent: When the subject of retreating arises, the first type considered automatically is the permanent retreat. This is the little mountain cabin tucked

away among the pines near a clear stream loaded with trout. There is nothing wrong with this picture, but it may or may not be strategically wise, depending upon the developing crisis and the location you choose.

The ultimate success of this type of retreat depends very heavily upon its location. For example, if it becomes necessary to use it as a retreat five years from today, will it still be a good location?

In choosing a location, there are hundreds of factors that should be considered. These require much research and thought on your part. Maps, statistics, graphs and charts all come into play here. Coordinate all pertinent information along with your family's personal plans and come up with several possibilities for further exploration.

Here are some questions that you may wish to answer for yourself.

(1) Does your health require certain climatic conditions? Dry air? Humid air? Hot Weather? Cold weather? Temperate weather? Clean air, free of smog or allergy-producing particles?

(2) Will your retreat depend on growing your own food? What type of climate will

the food need? Frost? No frost? How will rain, sun and wind affect your crops? What type of soil?

(3) What type of crops should you raise? Should you consider an orchard? Will you be able to supply adequate water and power for them?

(4) Is your proposed site near a war or terrorist-saboteur target such as a military base, power and water transmission lines, or prison?

(5) Will your site depend upon its own power supply? Is there an adequate supply of wood, sun, wind, water or coal?

(6) How accessible is your location during a crisis?

(7) Is the community, along with neighbors, solid and responsible? Would they protect your property while you are away?

(8) Could you live there permanently, in the event you lost your home through foreclosure or some other disaster?

(9) Will the local laws allow the type of development you have in mind? Do you plan improvements which you do not want inspected by the local building department?

(10) Does the location meet the interest

RETREATING

and skill factors of your family?

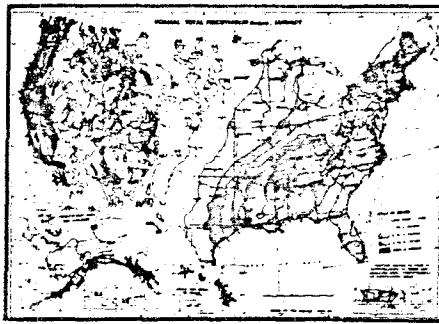
- (11) Have you investigated everything before you close escrow?
- (12) Water? Sewage? Permits? Planning and zone approval?
- (13) Is the site suitable for a deep, underground room?
- (14) Are the taxes low? Can you pay cash for the land?
- (15) Is it away from major population centers? Is it away from highways? Can it be seen from the road?
- (16) Can you disguise the entrance so it would be easily overlooked?
- (17) Could you get to your retreat when the highways are completely clogged?
- (18) Is your location attractive to the curious or campers and backpackers?
- (19) Is there one major employer in the area which could cause huge job layoffs?
- (20) Is your site free from natural disaster such as land or snow slides? Floods? Forest fires? Earthquakes? Soil erosion?
- (21) Could you make a living in the area in case you lost your job?

This is not a complete list, but it gives you an idea of how much thought and research effort is required. You should design your own check list that fits your situation.

Group Retreats: It is becoming very popular now to develop group retreats. The advantages are obvious: professional specialists can meet any community need—such as for a doctor and dentist. There is strength in numbers. Weakness or breakdown in one family can be compensated for by the group.

The disadvantages are not so obvious and seldom—if ever—mentioned in print. A few of them should be kept in mind:

- (1) The worse the crisis, the more valuable a group retreat might become. But, at an inverse ratio, it may also become more risky, if the worsening condition may cause government agencies or other opposing forces to focus on and seek out group retreats. It is virtually impossible to keep a group retreat totally secret.
- (2) This form of retreat is very expensive. First of all, in most cases, you will be paying for the developer's profit—which is only fair. The required improvements are usually extensive and most often must be paid for in cash. You will also be paying for any community buildings, security and group storage buildings, security systems, utility systems and perhaps a perimeter of some kind. In addition, there will likely be monthly fees to pay for guards and other services.

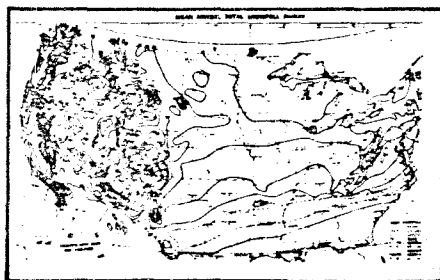


Rainfall patterns have a great bearing on choice of a retreat weather/climate zone.

- (3) Personal commitments you must make when signing up may be more than you or your family would desire.
- (4) You may not receive fee simple title—only a share—which is hard to market in case you need to get your money out.
- (5) The sites are usually very remote and you could be hard-pressed to reach it during an emergency. You would have to take-off *in advance* of an unexpected emergency.
- (6) Many group retreats make room only for those with a true survival-type talent or skill.
- (7) Use of your retreat may be restricted. Many frown on members using it simply for a family vacation or on bringing friends or even other relatives.
- (8) Perhaps the major disadvantage is the very real and common problem of personality conflicts. This is especially apparent when you are not as committed as other members. Or, maybe you aren't used to a "chain-of-command" type of management which does tend to build up resentments. Moral standards may not meet yours or you may just plain not like some members—all with whom you are thrown into very close contact.
- (9) You may be required to put your life on the line for the good of the group. Usually, doctors are exempt from this commitment.
- (10) The retreat's basic strategy may be fixed, leaving no room for flexibility—either for you personally or for changing conditions occurring at the time or over the next few years.

Group retreating is wide open for new and better innovations. For many, some

Areas of heavy annual snowfall, for retreat location, mean high energy requirements, short growing season.



valid possibilities remain in existing groups of which you may already be a member—churches, fraternal organizations, social clubs, employment groups and even your own neighbors. All you have to do is some evangelizing and provide the leadership.

Mobile Retreats: Here is where this writer's counseling seems to make a major departure from most other survival advice which revolves mainly around two forms of retreating (1) the permanent retreat where your mobility is directed toward traveling between your home and, say, a mountain cabin, and (2) major investment in a moving retreat such as a boat, camper or trailer.

The general approach here builds on the terms "flexible" and "options." Look again at the "dangers" list. It must be obvious that one single retreat plan cannot possibly meet all situations. In addition, you should consider another problem that has been plaguing everyone for some time: our society and economy are in a constant state of movement. Nothing is as permanent these days, as it was when the fatherly admonition was to "put down some roots, son." As long as you are tied down to a job, there is absolutely no assurance of what your situation will be tomorrow. This factor alone makes it very difficult to plan a permanent retreat. The mobile retreat overcomes many of those obstacles.

There are an infinite number of preparation and scenario combinations you could deal with, but let's look at some basic actions you might take which could provide a life-saving edge against almost any situation.

- (1) Prepare a 15- to 30-pound backpack loaded with basic survival items. This will allow you to travel fast on foot for, say, one or two weeks. Prepare one for each family member. Keep them loaded and handy for immediate use at home or with you in the car. If you commute some distance to work, keep one in your car at all times. This is the ultimate flexible or mobile retreat and one everybody can afford.
- (2) Learn and practice wilderness survival for the mountain, desert, sea, seashore, and for both hot and cold weather. Think of this as an insurance policy. If you are stuck without your pack, you can still move and live off the land.
- (3) Buy an "off-road" bicycle or convert your existing bike. Invest in bike-packs that can turn your bike into a "mini-camper." With this outfit you can enjoy a camping vacation or you could have your-

(Continued on page 68)

self a practical mobile retreat. Bumper-to-bumper traffic on the roads and highways would be no problem to you.

A motorcycle is an alternative, but your bike would be hard to push through rough country after running out of gas or oil.

(4) Storage depots can make a critical difference to your welfare during a chaotic period—especially if you are left with only the clothes on your back. This survival cache might consist of food, water, medical supplies, clothes, shelter, weapons, tools, fuel and some trading items. Their locations would depend upon your retreating strategy. For example, one could be buried in your backyard or near your permanent retreat site. Or, they could be buried near your planned trail through a national forest.

This is a fairly inexpensive retreat system and your mini-supply depots should last indefinitely, if you built boxes of plywood and sealed them completely with fiberglass and resin.

(5) Having an extra vehicle available someplace other than your own home could be a great asset for staying mobile. The cabin retreat often leaves his four-wheeler at a neighbor's and saves depreciation by commuting in the family car.

(6) Flexibility can be extended by owning animals such as horses, mules or burros. These animals can be cheap to purchase or raise and it may not be difficult to find a neighbor to board them when you are gone.

(7) Boats, by themselves, are really a separate retreating system, but as a part of your land-based strategy, you can utilize a small inflatable, folding or aluminum dingy to great advantage—if you think you will be near a river, lake or seashore.

The small boat can provide a food gathering platform or you can use it to travel while carrying a heavy load. It might also be used to escape trouble.

(8) The motorhome or pickup truck camper is already included in the inventories of many survivalists. The uses and advantages of these vehicles are easy to see, but caution should be added here so that you don't rely on them for your complete survival strategy. Remember, they are still subject to road blocks or heavy traffic and fuel requirements.

(9) If you are fortunate enough to have a mechanical skill, consider setting up a tiny shop in a van or small trailer.

(10) In your planning, you will need numerous maps. Be sure to collect both road and topographic maps for not only your retreat area, but the entire state—even the entire U.S., Canada and Mexico.

Plan alternate routes for travel to and escape from your retreat area. Make sure all family members have a basic route map in the event you become separated.

Boat Retreat: Like the permanent land retreat this is a complex subject on which *Survival Guide* has already touched. It's a topic you will see more of in the future.

This approach offers advantages no other retreating system can.

(1) A vessel can be used as a land base to live on.

(2) Boat dwellers can utilize the land while operating from the boat—along any coast. Seashores are excellent food gathering grounds.

(3) A boat can carry a survivalist family's complete supplies. This includes an inexhaustible supply of water—condensed from the sea.

(4) Probably the sea will hold the cleanest air in event of a nuclear explosion—or even powerplant leakage.

(5) The sea is an excellent escape from land-based mobs.

(6) Your boat is an effective alternative for reaching a foreign haven after the government restricts all foreign travel.

(7) With sail, there should be a little worry with regard to shortages of fuel, water, food or travel problems.

There are many disadvantages to boats, of course, but advance planning can overcome many of them. Boat retreating should, if possible, also include a land-based retreat.

Foreign Retreat: This is the subject that gave "survivalism" the most publicity a few years ago, through the many books and newsletters published mainly for the upper-middle income and wealthy people. The main objective was to provide tax shelters and low-cost living for those on fixed incomes. Foreign countries were also a source of currency investment.

For a long time, retirement articles have touted Mexico and other countries as ideal retirement place for Americans on fixed incomes to retire. The foreign retreat remains a popular idea with a number of survival writers, but the dangers now far outweigh the advantages.

If you are looking at areas outside the U.S., consider only three countries: Western Canada, New Zealand and Australia. Under no circumstances give up your U.S. citizenship. Aside from loyalty, there are too many advantages you wouldn't want to lose at this time. For boaters, there are some interesting retreat areas in the Pacific ocean, although conditions there are undergoing rapid change.

For those on fixed incomes who are still

looking at countries such as Mexico, you are likely to take on some problems. The low-cost living areas are also low in a lot of things—except, perhaps, crime. This writer has a friend who could live a fabulous life in the Philippines, but he wishes to remain in the U.S. to enjoy the medical benefits. South of the border, the practice of personal property confiscation by government representatives is all too common. Americans are no longer exempt from criminal or terrorist attacks—they are more likely to be the object of such violence. Some foreign countries could be good for a "touch-and-go" system.

Home Retreat: Your home should be the first site you consider for your retreat preparations. For one thing, you already have it. You also may have a large investment tied up in your house and find now that you can't afford to move—even were you able to sell it. Your house could prove to be a sound strategy—depending on many things. You might be able to afford to add a concealed basement; many of your survival stores will be with you, so why not provide a place to hide them.

The most overlooked asset in a home retreat is the neighborhood—specifically, the neighbors surrounding your home. They may feel as you do about survival, but just don't wish to discuss it because they're afraid you'll make fun of them. Think of the secure feeling you'll have with solid protection on all sides of you.

Most survival-oriented book catalogs advertised in *Survival Guide* cover this subject. Send for the suppliers' book lists.

In wrapping up, keep in mind that the average person will have to make money do triple duty as protection, investment and recreation.

The "perfect" retreat is only a dream. You will have to make many compromises. However, you can come closer to your dream if you convert the compromises into useful options, alternate plans and back-up systems.

In spending large sums of money, always consider that you may have that investment for some years and you will wish to be able to sell it when you have a change of plans or require emergency money.

Finally, test all your retreat plans against the dangers and pitfalls cited here until your ideas all come into focus.

Whatever you do, include your spouse and children in the discussions and plans. You need their support to make things go smoothly.

Good hunting! ●

SHELTERS AS AN ALTERNATIVE TO EVACUATION

Any debate concerning evacuation versus in-place shelters will have to remain strictly academic at this time. We have few blast shelters in target areas, and probably still fewer crisis relocation plans that are "ready to roll." Actually, I think the more important question today is whether we will be able to organize any type of workable civil defense program in the near future.

Since early this past spring we've experienced what one writer has termed the greatest peace offensive ever conducted, a well organized and expensive propaganda campaign aimed at convincing the general public no one can survive the bomb. According to the propaganda, only an immediate in-place freeze will prevent a nuclear doomsday, and any outlay for civil defense is a useless waste of funds. The antics of Ground Zero Week, with its prior and continuing message of the coming Armageddon, has apparently captured considerable support for the freeze initiatives, but that's only part of the story.

Due to a very quiet, almost clandestine, program being conducted all across the country, local governments, cities and counties, are being approached by anti-defense organizations, and asked to pass anti-civil defense resolutions. If passed, the prepared resolution removes the jurisdiction from all further participation in any civil defense program. The program apparently has had considerable success, and is meeting little, or no opposition.

Here in California, one county has even gone so far as to have the words "civil defense" removed from their disaster ordinance, and another is planning to print and distribute anti-civil defense literature. Also here in California, in addition to those entities passing the prepared resolutions, others have refused to go along with the mini-plans, the partial evacuation plans they were to draw up under FEMA guidelines, and have completed by October 1 of this year. My county, Los Angeles, has decided to wait for the full plan, but such isn't scheduled for completion until after 1990. We could all be speaking Russian by that time.

Why has a large percentage of the American public gone from past apathy to present open hostility toward a civil defense program designed to afford them some measure of protection in a nuclear exchange? Who's to blame? The propaganda blitz of the Left must of course take a large share of the blame, but many of our politicians are equally at fault. They have been too quick to jump on the doomsday bandwagon, but then most belong to the "me generation," no matter what their age. Look out for number one in the now, and to Hell with the future. Too bad the constituency might have to perish along with their elected officials. Last, but not least, FEMA must shoulder at least a portion of the responsibility for this drastic change in public opinion. They have done little if anything to counteract this peace offensive, and in my opinion it appears a change in agency leadership is in order.

It should be obvious to almost anyone that a workable civil defense program of any kind is virtually impossible without the cooperation of local government, yet at present that cooperation is seriously in doubt. The threat of

DURT 4-6-83 FILE # 536

nuclear destruction can't be eliminated by merely voting in favor of placing our nation at the mercy of the Kremlin. Hopefully public opinion can yet be turned around by counteracting the present propaganda with the truth.

Information is the basis of planning, but if you're making plans for other people, you'd best let them know what you are doing, and why. Up to now, the little information the public has received from the pro-civil defense sector has lacked some of the more important reasons we need a good program. Spokesmen either don't seem to be aware of, or chose to ignore the fact that the Soviets have a civil defense program, a program completed in 1972, and relying heavily on evacuation to protect the bulk of their population.

I have heard both sides of the evacuation-shelter debate point to the 1978 CIA report as supporting their side of the argument. The truth is, those that claim the report supports in-place blast shelters over crisis relocation, should go back and read the document again. The report states on page 2 that blast shelters have been provided for the Soviet leadership, but factory shelters can only accomodate 12 to 24% of the work force, and in a crisis all non essential and off-duty workers would be evacuated.

When the report was written, a minimum of 10 to 20% of the Russian urban population could be sheltered. By 1985 the percentage was expected to rise to 15 to 30%, but in reality less because of the expected increase in population. The last paragraph on page 2 of that report states, "Only by evacuating the bulk of the urban population could they hope to achieve a marked reduction in the number of casualties." According to FEMA, this report is still valid.

Probably the biggest misconception about crisis relocation, and a factor often stressed in the recent peace propaganda, is the question of where we're going to get the 3 days to a week to evacuate when we have less than a 30 minute warning time. The posers of that question seem to be deliberately confusing a suprise attack with a gradual build up of tension that culminates in the enemy activating their evacuation plan, which in turn would trigger ours.

Our military planners now feel there is little chance of a suprise Soviet strike, when such would leave their urban population exposed to our counter-strike. If the Soviets plan a first strike, it is most likely they will evacuate their cities first, a process the CIA says will take 2 days to a week, and with our superior transportation systems, we should be out in the boondocks before they are. Crisis relocation planning is not intended to protect our risk population in suprise attack. If such should come, and you're in a target area near ground zero, you've no doubt had it.

Along with the evacuation in less than half an hour, is the related argument that everyone will die in the massive traffic jams on the freeways. Most envision the usual rush hour traffic, only ten time worse, forgetting the freeways aren't that busy 24 hours a day. It can be done, but of course not in the less than half an hour used in the argument.

Another misconception about crisis reloaction, is that the small town homeowner will be required to house refugees from the cities. Evacuees will not be sent to private residences, but to temporary housing in such as schools and office buildings. Outside the risk area, fallout rather than blast is

the hazard; which brings up another fallacy, the claim that there aren't enough fallout shelters in the small towns to house the locals, least of all a large influx from the metropolitan areas. Evacuation plans take this deficiency into account, and plan to substitute dirt protected commercial type structures for shelter protection.

Earlier in this article I mentioned the mini-evacuation program, partial plans to afford some measure of protection until full plans could be completed. When FEMA ran into some resistance from local governments, they dropped the requirement for such plans. Both local government and FEMA seem to be completely ignoring the fact that there are critical time restraints, and any lengthy delay in preparations could prove disastrous. I'm speaking of course of the window of vulnerability that will open in the mid 1980's. At that time our military intelligence feels that Soviet military strength will have reached the point where the Kremlin can dictate the terms for our continued existence. I personally feel that window is already at least partially open.

I've often wondered why it should take us almost 20 years to complete the basic planning for an evacuation program. We started in 1973. If it takes us that long to complete paper plans for crisis relocation, how long would it take us to construct blast shelters for all those Americans residing in risk areas? Certainly not by 1985, and I doubt such could be completed even by 1990. Sure a number of European countries have provided shelters for their people, but they didn't start construction yesterday, and their per capita expenditures for civil defense are many times greater than ours. This brings up the matter of the cost of a blast shelter program. I've seen various price tags ranging from 60 billion to 100 billion, with all estimates considerably higher than the estimates of the cost of evacuation planning.

I don't mean to imply that in-place shelters are a bad idea, but due to time and financial constraints, it seems counterproductive at this time to drop relocation plans in favor of in-place shelters. Actually, risk area blast shelters are included in, and are necessary to crisis relocation planning, as not everyone can up and leave town when the evacuation order is given. A portion of the essential work force in such as power, telephone, fire, police and food industry workers will have to remain on the job. Such employees, and their families, would be evacuated to the nearest safe area, and the workers would then commute to their jobs. Blast shelters will be needed for the essential workers on duty, and though some shelters already exist in the risk areas, it is doubtful there are anywhere near enough spaces to meet the requirement.

I'll be the first to admit that crisis relocation planning is far from perfect. I have my doubts about the plan being able to turn the food chain around in order to feed the bulk of the population relocated to the rural areas. I don't like the calorie count of the meals to be supplied to evacuees in the host areas. This especially when all able bodied evacuees will be required to do pick and shovel work constructing shelters. I'll even concede that there will no doubt be some collision deaths on the freeway, but even with all its faults, crisis relocation seems to offer the best protection for the near future.

Whether we rely on evacuation, or in-place shelters, after a nuclear attack we're going to have a lot of stranded people. Remember, during the shelter

period, the food chain and all other systems have stopped. When it's safe to come out again, how much food, water, and other essentials remain in the shelter stocks for continued survival? Probably very little, if any at all. In addition, I think we can expect a large portion of the nation's electrical power to be out of service, either because generating plants were targeted, or because of the EMP effect of nuclear detonations. A lack of electrical power effects all other systems, and especially water systems, meaning many cities and towns will be without water.

The latest civil defense literature I've seen on recovery after nuclear attack calls for a return to the cities, or at least to the undamaged, or only slightly damaged portions. Such reoccupation would of course have to be delayed until such time as any damaged utilities can be repaired. I don't expect all our cities to be completely flattened after a nuclear attack, and in fact many on the fringes of a target may suffer little damage, but without utilities, a city is just a worthless mass of steel and concrete.

Could the damaged utilities be repaired? Lets stop a moment and look at just what such repairs would involve. First you have to get repairmen to the site of the damage. That means vehicles, and especially fuel to run them. It also means repair parts must be found and transported, and no doubt portable electrical generators will be needed, plus fuel to run them. Add to this food, water and other vital supplies needed to support the workers while they make repairs that could take many months. Where do these supplies come from? We have no stockpiles, and in fact, recovery isn't even on the planning agenda until after 1990.

With shelter supplies low, or probably already exhausted, the surviving evacuees in the rural areas no doubt will be forced to forage for food and water. They can't return to their homes in the cities because their vehicles are out of gas, or nearly so. How about those workers in the blast shelters in the cities? Their supplies are probably low, or gone too, and it's pretty hard to forage in a city.

In August 1977, a study on the feasibility of California engaging in crisis relocation planning was completed. the conclusions were positive, but the last sentence of that report reads, "In the event of an attack, the relocation could then evolve into a form of resettlement of undetermined duration." No, in spite of the optimistic picture painted by some of our past civil defense planners, I don't think we'll be returning to the cities. First I don't think there will be any utility repairs made in the cities due to the logistics involved. Secondly, I feel we'll be lucky if we even manage to rescue those left in the metropolitan blast shelters.

I was born and raised in a rural area in Iowa near Dubuque, a city often named as the butt of small town jokes. If I emerged from a shelter in Dubuque after a nuclear attack, I could reach the rural area at the city's edge in less than a two hours walk. In about another five hours walking I'd be among farm relatives with wells and amply stocked cellars, a definite plus when it comes to survival. The problem is, we don't live near Dubuque anymore.

Twenty five years ago we moved to California, right smack in the middle of the Los Angeles basin. I can reach the city limits in less than 20 minutes, but instead of being out in the country, I'm merely at the edge of another

city, and beyond that another city, and another, and another. It's probably a two day walk up the dry San Gabriel River bed to the Morris Reservoir, and probably a couple weeks of walking over two mountain ranges and a stretch of desert to reach the food growing area of the San Joaquin Valley. If the irrigation systems of the valley have failed due to lack of power, it means more walking to find a self sustaining area. We have all the "bug out" gear and supplies, including walking shoes if we have to move on foot, but I'd much sooner be starting from the middle of the San Joaquin than from the middle of the LA Basin.

I'd of course prefer living somewhere out of the Basin, up in some small town in a non-target area, but in spite of the advice of some survival advisors, we can't all just pick up and move to the safety of the boondocks. I'm not self employed, and my employer won't let me take the timeclock with me. When retirement comes in a few more years, we'll head for the relative safety of a small town, but I doubt my opinion will change on the evacuation-shelter question.

In conclusion, we don't need evacuation, or shelters, we need both, but we also need recovery stockpiling and planning at the same time. To me, it is neither logical, nor ethical, to try and seperate the two. What is the sense of saving the population from missiles and fallout, only to have them perish later from lack of food and water, but then to return to the realities of the present, before we can have any effective civil defense program, we have to somehow create a reversal in American thinking, from fatalism to a desire to survive.

Bud Baal
Nov 1982

OUT OF THE ASHES

WILLIAM W. JOHNSTONE

With less than ten hours before launch, the world went into a blind panic. In America, there weren't enough police and soldiers to control the frightened mobs trying to flee. Wild reports that hundreds of thousands of enemy troops were on the way split the airwaves. Troops were moving, but they were Russian and Chinese troops moving toward each other, not toward the U.S.

Rioting and looting in American cities began slowly, then picked up in intensity and savagery as night darkened the streets. Subways were jammed with frightened people running blindly, clutching a few possessions.

Freeways and expressways clogged, slowed, then became hopelessly snarled as cars and trucks broke down and were abandoned. For the most part, efforts to try to clear the interstates failed because civilians refused to obey military orders.

Civil defense and evacuation plans in America were a joke. Leaderless, the people were left to their own panic-stricken imaginations, and they ran wild.

The military had declared martial law, but the news of that only served to frighten the people more. The American people reasoned that if the military had declared martial law, then we must be under attack—from somebody.

Because of jammed highways, the military had had to airlift troops in, and at night, troops in battle dress all look alike. Who could tell?

Automobiles became useless; death became indiscriminate. The elderly became the first casualties—most had no place to go, and others could not get where they wanted to go. The old could not move swiftly enough, so they were trampled upon and left to be robbed, assaulted, and killed. Children became separated from their parents. They sat on the curbs and howled their fright and were knocked out of the way by panicked adults. Some ran into the streets and were crushed by speeding automobiles. Others were left to wander the streets in total mindless terror and confusion. Older children found rocks and sticks with which they broke windows, then stole candy and food. The girls, those old enough—in most cases—were dragged into alleys and, at the very least, raped.

It is a fact that in times of great crisis, human animals prowl the streets in far greater numbers than normal. Weaponless, most people had no means with which to defend themselves. But criminals never register guns; and never seem to have any problem getting them. Shots

were fired, fires were started, the flames and the gunfire and the screaming heightening an already near-impossible situation.

And the worst was yet to come.

A wire service reported that America was under attack from foreign countries. Flash. DJs hit the air with the news. More panic.

And, just as America has agents in every country around the globe, gathering intelligence and waiting to strike in case of open hostilities, most other countries have agents in America, waiting to do the same. They all have their orders: in case of attack, knock out communications and create panic and confusion. And that they did. They could not reach their home countries, and most of their embassies were closed, so they followed the earlier orders. The U.S. had begun jamming frequencies—as many as they could, and that created even more problems and confusion.

The Emergency Action Notification System—ENS—was ordered activated. It is an expensive and bothersome mess that has never worked, and many (if not most) DJs did not have the vaguest idea of what to do when the bells started clanging and the buzzers began buzzing and the tones began howling and whistling.

More panic.

Then the first missile was fired. It was not clear (and never would be) just who started the dance with whom, or why, but India and Pakistan exploded, and that part of the world began burning.

South America had erupted in warfare, as had the Mideast, and Africa. The world had, for years, balanced on the edge of insanity. The slender tightrope had snapped, and the world went berserk.

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"No." Travee's voice was emotion-charged as he thought of his wife of thirty-five years, and of his sons and daughters and his grandchildren. He had sent them all to his birthplace—where he owned land—up in the far north of Wisconsin. Perhaps they would be safe there, but he doubted it. "No, I'm not that anxious to die. Malelov, you seem to be overcome with philosophical meanderings. . . . Perhaps you can tell us what brought the world to this point?"

"But of course," Malelov said. "General Travee . . . oh, excuse me, you are President Travee now, aren't you?" He laughed. "As I am now premier. As to the cause of this . . . misfortune we are about to bring to the world—or did *we* bring it? Oh . . . anger, frustration, helplessness, greed. No one cause. It was our country meddling in your business; your country meddling in everybody's business. And . . . perhaps it was the fact that both of our governments neglected a middle ground: something between the extremes. Not communism or

socialism or democracy—but, well, I don't know. I will admit, now, that I am having serious doubts about my own political philosophies. One can only enslave a people for so long, be it physically, mentally, socially, or economically; then they revolt." He chuckled. "Is that not correct, Mr. President-General?"

"That is correct," Travee said.

"Your constitution is a most interesting document," the Russian said. "I have read it many times. Interesting, but vague. And totally unworkable to the satisfaction of all the people it must encompass. I believe, Travee, that from out of the ashes both of us will produce with our missiles, there will arise a great number of small nations—including many within the United States. That is what I believe. Nations, small ones, that will serve their own people—those being willing to live under the particular laws of that nation. All, in the main, answering to some degree to one central flag, but not in the whole. Yes, that is what I believe. Have you ever given that any thought, Travee?"

"Yes," Travee admitted. "I have. But it won't work, Malelov."

"How do we know?" the Russian challenged. "Have either of our countries ever tried it?"

"Could we try it now?" Prime Minister Larousse suggested hopefully.

"No!" Malelov said, flatly and quickly. "It is too late. Too late for us. Ah! Enough small talk."

Travee was in constant communication with his northernmost tracking stations. No blips had yet appeared.

"No," Malelov said, his voice holding sadness. "It is too late. Crazy Horse knows. We are both soldiers. We know what we must do. Our generation, in both our countries, brought all this on: your country, Travee, with its maze of conflicting laws and rules; mine with its repression—I will admit it. So, our world is closing around us. However,"—he sighed—"from out of the ashes . . . and all that nonsense."

The men were silent for a time, their breathing heavy over the miles.

Suddenly, Malelov laughed. A great, booming laugh. "All right, you silly Frenchman. I have a present coming your way. Not many, but enough."

The PM cursed the Russian general.

In my hurry, I hadn't followed my own drill; hadn't kept two radios tuned to different stations; and so I didn't hear the President's brief, self-serving spiel that called for crisis relocation and, by implication, admitted that we could expect a "limited" nuclear response to the tactical weapons we were unleashing on the wave of Soviet tanks that had lashed across the border into West Germany. "Crisis relocation" was an old weasel phrase for "evacuation;" our Office of Technology Assessment and thinktanks like the Hudson Institute had solemnly agreed that Americans would have between twenty-four and seventy-two hours of warning before any crisis developed into a nuclear exchange.

Actually, from the moment our Navy engaged Russkis in the Aegean until the first wave of nuke-tipped MIRVs streaked up from Soviet hard sites, we'd had about fifteen hours. It might've been halfway adequate if we'd planned for it as Soviet-bloc countries had done—or even as one solitary local government had done in Lane County, Oregon.

Everybody joked about the jog-crazy, mist-maddened tokers around the University of Oregon in Eugene, so the media had its fun upon learning that city and county officials there were serious about evac—I mean, crisis relocation. Some poly sci professor, in a lecture about legal diversion of funds, pointed out that most federal funding for crisis relocation was turned over to emergency-services groups in sheriffs' departments. And that those funds—all over the country, not just in Oregon—were being diverted by perfectly legal means to other uses. The overall plan for a quarter-million people in the Eugene area was orderly movement to the touristy strip along the coast.

Then an undergrad checked out the routes and nervously reported that the wildest optimist wouldn't believe that many people could drive out of firestorm range in two days' time through a bottleneck consisting of a solitary two-lane highway and a pair of unimproved hold-your-breath gravel roads. County maps showed several more old roads. They hadn't existed for thirty years.

Firestorm in Eugene bloody *Orygun*? A strong possibility, since the Southern Pacific's main switching yards in the coastal Northwest sprawled out along the little city's outskirts. No prime target, certainly, but all too likely as a secondary or tertiary strike victim. In a county commission meeting, some citizen asked, Why worry? We'll just get on the capacious Interstate 5 freeway and drive south.

The hell you will, replied a state patrol official. We have orders to keep that corridor clear for special traffic running south from Portland and the state capital. There'll be riot guns at the barricades; sorry 'bout that, but Eugeneans were scheduled to the coast and if they didn't like that, they could stay home and watch the firestorm from inside it, har har.

When local politicians realized how many feisty folks in the Eugene-Springfield area were clamoring for a solution, one of them hit on a rationale that couldn't be faulted. Eugene could be a target because the railroad had such tremendous load-carrying capacity, right?

Right. And SP's rolling stock, flatcars for milled lumber and boxcars slated for Portland and Seattle, often sat waiting on sidings all over the place, right?

Right. And the SP had a branch railway straight to the coast and a small yard for turnarounds only two hours away by slow freight. A hastily assembled train could haul fifty thousand people and all the survival gear each could lift from Eugene in a single trip, then return for more.

And that was right, too. With public subscriptions helping to fund their studies, SP troubleshooters found that they could make up such a train in about twelve hours. They even tried it once, billed as an outing for subscribers who'd paid SP to do the groundwork, and though two drunks were injured falling off a flatcar, it made a lighthearted tag end to the eleven o'clock news across the nation. That had been two years ago.

9051 Via Amorita Avenue
Downey, California, 90241
May 16, 1982

Major Robert Kingsbury
Military and Veterans Affairs
Hall of Administration
500 West Temple Street
Los Angeles, California, 90012

Dear Major Kingsbury:

In regard to the uproar caused by your statements of this past week, I thoroughly agree with you. It will take survival skills and the strength of youth to bring about recovery after a nuclear attack on this country. At present, emotion, not logic, seems to be the general public's long point. The present anti-defense "peace offensive" is changing the public's apathy to fatalism.

I first heard your statements on the 11:30 am news on Ch 11 this past Wednesday. Your statements, or rather the justification, were in an interview at the end of the segment. Was this taken out of context, part of a longer interview?

That same evening, you were raked over the coals by Ray Taliafaro (not sure of surname spelling) on his KGO talk show in San Francisco. The first caller agreed with your logic, so the host was immediately antagonistic. When the caller mentioned he was a member of Mensa, his intelligence was attacked thereafter, and before the end of the conversation, it was being implied that you would require IQ tests before exiting the cities. When the caller said he was a survivalist, and had made provisions for himself and his family, Taliafaro termed this selfish, and said the man instead should be out demonstrating for arms controls.

I conduct classes for an industrial disaster program, and for two small survival groups. All three groups have been given classes on Soviet CD and the status of our evacuation program. They have also been informed that the jurisdictions in the LA Basin have refused to enact the mini-evacuation program that was to be ready by October 1 of this year, a decision that did not appear in any paper, or make any of the TV news programs.

I personally believe no effective civil defense program is possible without an informed public. With the cooperation of the news media, a tremendous amount of misinformation is being disseminated both by anti-defense organizations, and by politicians. Counteracting this kind of propaganda would seem a hopeless task.

Being as it appears logic will not prevail, how does the informed person go about planning for the survival of self and family? I personally agree with CRP and have told the survivalists in my classes to adapt it to individual use as I see little chance of a public program being ready in time.

Yours truly,

Clarence C. Baal Jr.

Clarence C. Baal Jr.

When hunting for survival shelters, they don't mention 'atomic bombs'

Aaron Epstein
Knight-Ridder Newspapers

MARTINSBURG, W.Va. — The basement room where the students meet is a veritable museum of civil defense.

Assembled there are the artifacts of the scrapped plans for shelter survival in the nuclear age: stacks of rusting batteries, yellowing pamphlets telling how to stockpile food before the H-bomb drops, 17-gallon drums of drinking water, cartons labeled "Biscuit, Survival, All-Purpose, Date Packed July 62, Gross Wt. 32 lbs."

The shelf life of the biscuits expired years ago, but in this eastern panhandle town of 13,000, Berkeley County civil defense chief Richard Lowman Jr., keeps them around anyhow.

"It's better'n snowballs, as my father-in-law used to say when the hay was no good for the cows to eat," he said with a philosophic air.

A few government-hired architectural and engineering students have been working out of this civil defense room, in the federal building, inconspicuously gathering data for a federal plan to house hundreds of thousands of people believed likely to flee the Baltimore and Washington areas in case of an anticipated nuclear attack.

These students, part of a contingent of 175 hired across the nation this summer by the Federal Emergency Management Agency, are surveying publicly accessible buildings of all kinds for possible use in any emergency — including an international crisis that could prompt fearful city-dwellers to head for these green and placid hills.

When Gregory Sulon, a 21-year-old student at Temple University in Philadelphia, enters a doctor's office, a drug store, a church or a supermarket, he doesn't mention nuclear bombs or evacuation or radioactive fallout.

Instead, he displays his identification card and says: "Hello, I'm with the Federal Emergency Management Agency and we're doing a survey of congregate care facilities."

That usually satisfies the owner or manager. Sulon then inquires about basement, roof, walls, dining facilities, commodes and beds, and paces off the dimensions of the building as required by FEMA form 85, which replaced Defense Civil Preparedness Agency Form 682, which is obsolete.

"We don't tell them we're preparing for a war," explained FEMA's John Albright, who supervises the students here. "We play it down. We tell them it's for any type of disaster, floods and so on. Nuclear war is a turnoff."

FEMA spokesmen say that officialdom's downplaying of nuclear war merely reflects the agency's broader mission to advise states and localities on a wide range of emergencies.

Dean Neal of West Virginia's state office of emer-

gency services says, on the other hand, that FEMA adopted euphemisms as "a smokescreen to get the word 'nuclear' out of the picture." For instance, he says, his title was changed recently from "nuclear civil protection officer" to "population protection officer" although, he said, "I'm doing the same thing."

So the students have attracted scant attention here, which is just fine with FEMA. The Reagan administration, convinced that planned evacuation offers the only hope of reducing casualties in a nuclear war, wants to avert any more grief over its crisis relocation plan, which already has drawn mushroom clouds of scorn and ridicule.

During a House debate on the plan last year, one congressman said the plan was based on the "Strangelovian notion that we can fight, survive and win a nuclear war. Nothing could be further from the truth."

Rep. Barney Frank, D-Mass., called the evacuation concept "not evil" and "not obscene." Rather, he said, "it is silly."

The U.S. Postal Service hand-delivered a round of guffaws with its nuclear war contingency scheme to move its operations to evacuation areas and pass out change-of-address cards.

Former California Gov. Edmund Brown Jr. noted that "Los Angeles cannot even evacuate itself on a Friday afternoon with no (smog) alerts in effect." New York City spurned the plan, too, one councilman there calling it "voodoo preparedness."

Here in the West Virginia "host" area (which FEMA now would like its people to call a "reception" area) for the Maryland-D.C. "risk" area (which FEMA prefers to label a "high hazard" area), there is skepticism among residents and even civil defense officials themselves.

"Why Martinsburg?" asked Ed Light, who sells used guns and adult films at his discount store. "We're only 90 miles away from Washington, D.C. From what I can understand about nuclear stuff, it doesn't seem to me 90 miles is going to do any good. We're going to have a lot of congestion with people coming out of Baltimore and D.C. We got enough congestion right now on weekends."

"Of course, it's gonna be every person for himself, that's the way it looks to be, and my guns aren't gonna be much good unless we're gonna fight World War I again."

To local civil defense director Lowman, an apple grower already irritated by the federal government's farm labor rules, the coming of the students and the FEMA forms seems to be more bureaucracy and paperwork.

"The money's there, it's funded and it's gotta be spent," he said. "Isn't that the government way of doing it? That's the way we used to fly (in the Navy). If we had gas left at the end of the quarter, we'd fly around and use the gas up. If you didn't use it, you

SURVIVAL: 'Congregate care facilities' sought

STUDENTS: In the survey, 'We play it down'

didn't need it so you wouldn't get it next time."

State official Neal peppers his reactions to crisis relocation with such unkindnesses as "pipe dream" and "pork-barrel program."

From start to finish, he said, crisis relocation is "a logistical nightmare."

Up to now, Maryland wants no part of the FEMA scheme, even though the state can get federal planning help without cost. Does this mean that FEMA is planning for West Virginia guests who aren't planning to arrive?

"It could be," responded Pete Fredericksen, a former Pentagon mapping and biological warfare specialist who directs emergency management programs at FEMA's regional office in Philadelphia.

"But we could simply schedule people from other evacuation areas for there so the effort wouldn't go to waste. They could come from Washington, suburban Virginia and around Waynesboro, Gettysburg, Chambersburg in Pennsylvania, which would be very close by.

"Plans or not, we would expect a lot of spontaneous evacuation, people who would say, hey, things are looking bad, now's a good time to head out to the summer home in the mountains or whatever. However, it would be better if the evacuation is organized."

FEMA is studying "spontaneous evacuation" and how to "upgrade" mountain structures to resist radioactive fallout by, say, piling dirt around buildings, said James Holton, an agency spokesman in Washington.

The forms compiled by the West Virginia students — from Charles Town to Paw Paw — will be sent to Neal. He said he will "use my own discretion" to choose the best buildings, using a guideline of 10 square feet per person for fallout shelters and 40 square feet per person for temporary housing for other types of emergencies.

The National Shelter Survey (renamed the National Facility Survey) will be linked to other planning "annexes" covering such matters as assessing risks, dispersing evacuees, and replenishing food and medical supplies. All of this information and more will be incorporated into an Integrated Emergency Management System.

Because Congress cut the Reagan administration's civil defense request for the fiscal year 1983-84 from \$253 million to \$169 million, FEMA officials say that at the current rate of spending, their emergency plans won't be completed until well past 1990.

Lowman, among other local civil defense directors, has been asked to evaluate the threat to Berkeley County (High? Medium? Low? Unsure?) of drought, earthquake, flood, major fire, tornado, tsunami (tidal wave), water contamination, radiological incident and nuclear attack, among other catastrophes.

What happens after he completes that task? "I don't know," he replied. "They didn't tell us."

Behind all this planning lies the assumption that there will be about a week of international tension before a nuclear attack, giving residents of the Washington-Baltimore target area time to evacuate, preferably to the west because prevailing winds are likely to blow fallout in an easterly direction.

"We've always assumed we'd have low risk of nuclear emergency here because the only thing we'd get here would be fallout or a hit that was mis-aimed or a

malfunction," Lowman observed in his apple sales office.

"But it doesn't kill that many people. Gosh, they're making a big deal over this Hiroshima and Nagasaki. Now that killed a lot of people at one time but there's a lot of people still living and they went and rebuilt the towns."

The safest place in Martinsburg, he says, is a quarry near the Martin Marietta Corp. plant, though "it would be like living like rats, 60 degrees year-round and kinda damp."

One of the students, Michael Wuerthele, 22, of Pittsburgh and Penn State University, likes McDonald's restaurants because they have "fully buried cooking facilities."

The downtown stores are best because of their thick common walls, Sulon says.

The manager of the state liquor store, when asked recently about the use of his place as a shelter for evacuees, said something like, "Well, we'll have a good party here for a few days."

Actually, Lowman confided: "I think everybody's gonna wanna stay home. I just wouldn't want to leave my things behind. How much of your silverware and your collections and your antiques can ya take with ya?"

Indeed, surveys have shown that most people "just don't want to face the reality of a nuclear war," said FEMA's Holton. "They don't like the thought of denting their \$10,000 car. But if the situation came up, they'd get the hell out of there and not worry about it."

For the students, despite some grouching about after-hours boredom in rural America, it has been a good summer job. FEMA pays them at the rate of \$10,000 to almost \$12,000 a year, plus \$23 a day for living expenses and use of a government car, and they are reluctant to spoil it by commenting publicly on the validity of their work.

"I agreed to find all the places to use in case of emergency," Sulon remarked before assessing Affordable Wheels, a used-car lot advertising a Honda special.

"But if the bomb drops I don't know whether it'll help or not. I'm not convinced we can live through it. We do this for the money and to stay in school."

In the sales shack, Irvin Catlett, a round man with green suspenders, told Sulon: "Nope, no water, no commodes, no nothin'. Just a Johnny House put in by the WPA in 1936. I wouldn't live here."

No good for a fallout shelter, Sulon decided. Or even congregate care.

WAR: People 'just don't want to face reality'

"Kansas City," says Southwestern Bell's Ed McKaskel, "is not sharing with the rest of the country the fatalistic attitude which seems to say civil defense is useless." McKaskel is one of the Kansas City leaders who, with federal blessings and help, wants to ditch evacuation for shelter. Here McKaskel tells why and how.

KANSAS CITY'S ALTERNATIVE TO RELOCATION

EDWIN P. MCKASKEL

The Kansas City metropolitan area consisting of a million and a quarter people is, perhaps, more vulnerable to the consequences of a nuclear exchange than most other areas. Located closer to more missile fields and SAC bases than any other major city, it lies just 30 miles from the Whiteman AFB complex of approximately 150 Minuteman missiles dispersed over western Missouri. In addition, it is less than 200 miles from the McConnell AFB Titan missile field to the southwest and SAC headquarters to the north near Omaha.

To a greater degree than people of any other large city, Kansas City has begun to be sensitive to civil defense and to independently involve the citizenry in a local option which, unfortunately is not available everywhere.

Kansas City rests upon the thick layer of Bethany Falls limestone which has been exploited by mining interests for at least 75 years with a resulting complex of dozens of mines underneath the metropolitan area. The mines are unique not only in their dispersion throughout the city, but they are also blessed with geological qualities which make them perfect for uses other than mining. Layers of limestone are

overlayed by a layer of shale which makes them virtually water tight, an unusual event in limestone developments. Due to the rolling hills upon which the city is built, the mines are exploitable simply by blasting mine entrances into the hillsides. This allows horizontal mining with direct entrances which may be used by trucks and trains without using ramps, elevators, shafts or other conventional mine entry techniques.

The huge food warehousing needs of Kansas City caused food producers and brokers to discover the practicality of storing all types of foodstuffs below ground in the millions of square feet of cool, dry space left by the mining operations.

From food storage the underground facilities quickly adapted to a multitude of other uses. The security and virtual elimination of heating and cooling costs made the sites of great interest to all types of government and business. While they still are largely used for general storage, they are increasingly used for vital records centers, office space and even manufacturing. One Taiwanese company is scheduled to open a plant to manufacture electronic equipment and may eventually employ more than 350 people in the Great Midwest

Corp. facility. Other plants will follow. Computer centers, emergency relocation centers and many other operations are opening in the mines daily, joining the more than 1100 companies already there.

The active civil defense effort which is growing in Kansas City has its roots in the fact that the city lies in a region which has been devastated repeatedly by tornados, drought and flood. The people have lived through those disasters and know that calamity can be survived if you plan ahead and have the will power to stay prepared. The smooth handling of the recent Hyatt Regency Hotel disaster was no accident. It was the result of thousands of hours of

MILLIONS OF SQUARE FEET OF COOL, DRY SPACE.

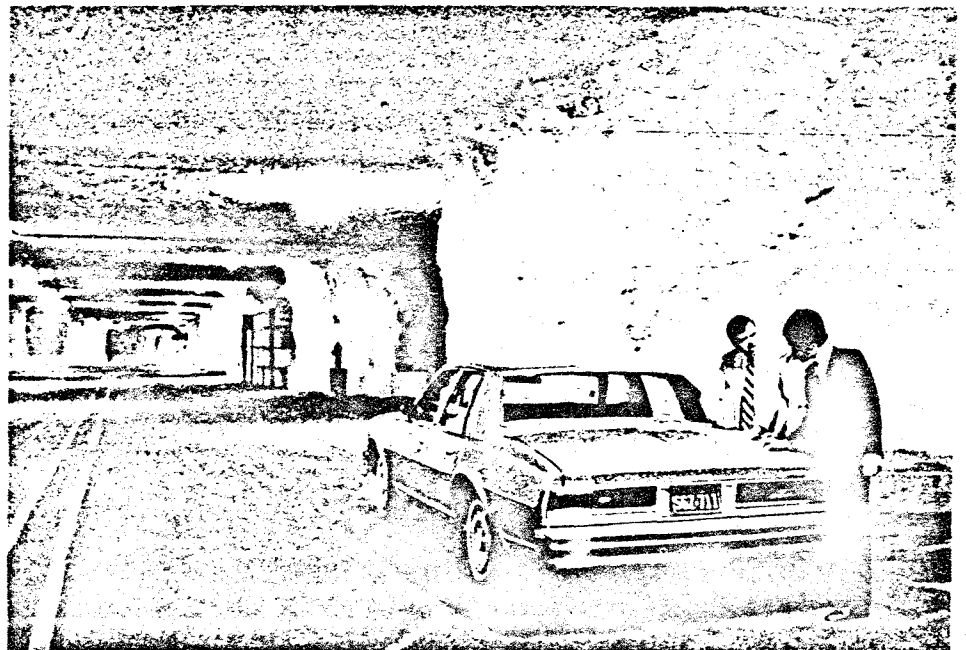
practice and planning by hundreds of public safety and volunteer organizations.

For years, there has been a regional emergency preparedness group composed of full time civil defense and Red Cross officials, public safety officials, utility

*FEMA: Federal Emergency Management Agency



Edwin P. McKaskel



Entrance to Kansas City underground — one of many.

managers, government agencies, and concerned citizens who meet monthly to plan for disaster. The annual spring tornado season allows ample experience in testing radio facilities, sirens, school and industry safety programs. Citizen volunteer efforts keep people interested and involved. More than a hundred community leaders regularly turn out for the monthly civil defense meetings. Civil defense experts from other cities are amazed at the degree of community involvement.

The stage was set when the federal government turned its back on "in-place" blast and fallout shelter programs and adopted its "relocation" program to evacuate American cities into rural, and supposedly less vulnerable areas. But the truth is, after years of study, the evacuation plan is not in place and federal officials will tell you confidentially they doubt that it ever will be.

In the case of Kansas City, FEMA's* evacuation plan calls for moving most of the population to an area due south of the city in Southwest Missouri. Not only are the roads inadequate, food, shelter and security non-existent, but to get there the citizens would have to drive through the Whiteman AFB missile field, literally within a stone's throw of some sites.

There is a midwestern expression used when people feel they have been treated derisively. They say "we didn't just ride into town on the back of a turnip truck." Indeed, the flaws in the evacuation program as it applies to Kansas City were so obvious and so fatal that the local emergency preparedness group sought a more logical alternative, one which would give the people a reasonable chance to survive at least a heavy fallout situation.

The Kansas City Emergency Preparedness Group brought in the most knowledgeable people in the field: General George Keegan, General Daniel Graham, Dr. Leon Goure (foremost expert on Soviet civil defense), Dr. Eugene Wigner, Dr. Edward Teller and many others. From these experts they heard a new story, one which has not been explained to the American people. They learned that civil defense is real and has worked time and time again in other countries.

THE CITY COULD LOOK TO ITS VAST UNDERGROUND.

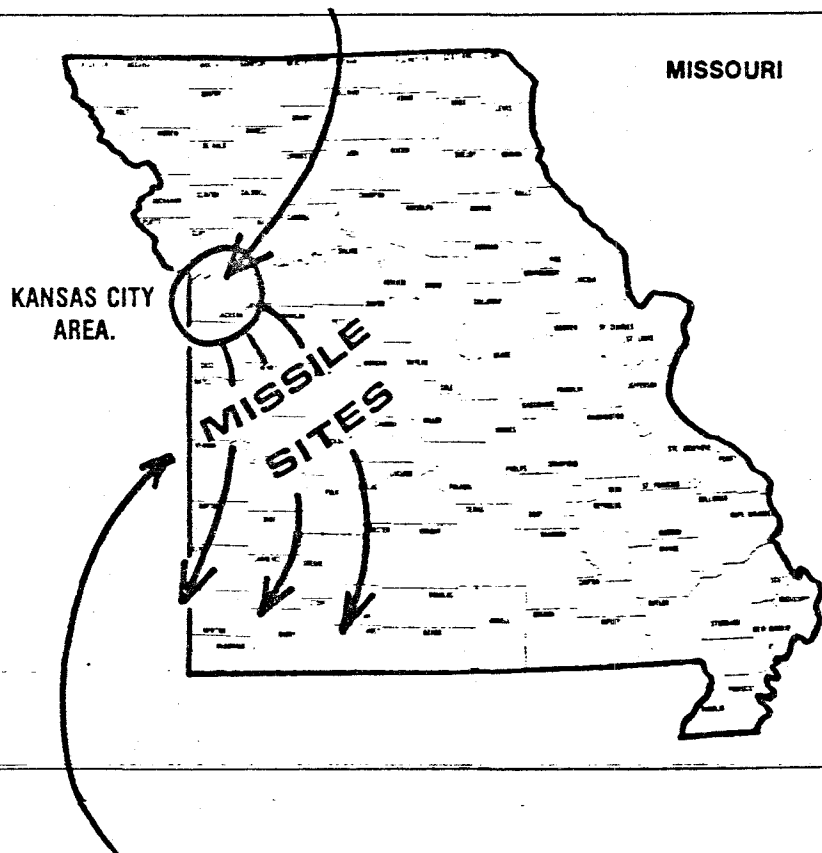
So work began in Kansas City on a logical alternative. It was obvious to many that the city could look to its vast underground for more than its economic

welfare. An effort was begun to analyze those facilities by the Kansas City, Missouri Office of Emergency Preparedness and by such local scientific volunteers as Dr. Denis Ward and Professor Robin League of the University of Missouri, who have done geologic studies indicating the underground sites have blast and fallout resistance equal to or better than any other public shelters in the world. This analysis was confirmed by Cresson Kearney and Dr. Carsten Haaland of the Oak Ridge National Laboratory.

There is ample space to house the entire population with more than twice the square footage considered minimal by FEMA for such numbers.

80,000,000 square feet is an area difficult to visualize. However, if you dug into the side of a mountain and the width of your tunnel were 100 feet (twice the width of the average house) you would dig over 150 miles before you dug out 80,000,000 square feet!

OVER 80,000,000 SQUARE FEET OF UNDERGROUND SPACE EXIST IN THE KANSAS CITY AREA.



KANSAS CITY AREA EVACUEES ARE LARGELY ROUTED THROUGH MISSILE SITES TO SOUTHERN MISSOURI ACCORDING TO CRISIS RELOCATION PLAN.

Map of Missouri showing stipulated distant evacuation route for Kansas City and close-in underground area proposed for use by the Kansas City Emergency Preparedness Group.

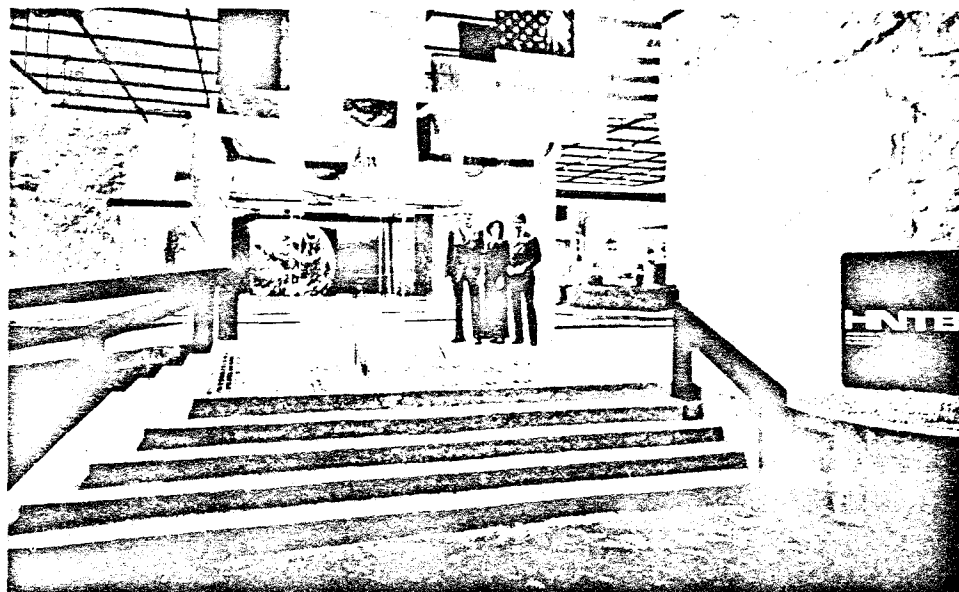
The orientation of mine openings (mostly north and west) is away from primary blast probabilities at Whiteman AFB to the east. Even those openings facing east and south can be equipped with piles of rock to act as low cost blast deflectors in front of openings.

Local rail and truck lines, given a few days to prepare, could easily back trains and trucks containing water, fuel and other supplies into the underground in sufficient quantities for survival to supplement the stocks already in each site. All that is needed is a professional, full time effort to organize an orderly transfer of people into the facilities plus a better placement of emergency supplies, medical facilities, etc.

Towards this end, a new not-for-profit corporation, the Kansas City Emergency Preparedness Group has been formed under the leadership of Major General William Dietrich (USAF-retired) with a cross section of informed citizens and professional civil defense experts.

The organization hopes to persuade FEMA to exclude Kansas City from its national relocation program and to divert funding from the program on an equitable basis to assist in setting up the plans, full time staff personnel and equipment needed to push the Kansas City program to completion.

Towards this end the new organization is continuing to brief civic and business leaders of the community so that a united effort may be used to persuade the federal



Subterranean office space. (Photo by Great Midwest Corporation)

officials of the wisdom in their ideas. Such civil defense advocates as Congressman Ike Skelton (D-MO.), Congressman Don Mitchell (R-NY.) and others will be urged to support the program.

In the near future a community-wide briefing of key leaders will be held in Kansas City to acquaint them with the goals of the Kansas City Emergency Preparedness Group and to gain volunteers to raise the funds necessary to put on a demonstration project in one of the underground sites to show, in a tangible way, the potential of the program and to learn some of the pitfalls. The group hopes

it can demonstrate to FEMA and the Reagan Administration that at least one urban area is concerned about nuclear survival and is willing to do something about it without waiting for Washington to tell us how.

The group also hopes that when the program is fully implemented and people all over the country compare the chances of survival in Kansas City with their local area, they will decide to get involved in their own survival. And maybe, just maybe, Americans will at last begin to think of civil defense as the vital necessity which it most assuredly is. □

DO-OR-DIE DOSIMETER

Homemade Solution to Nuclear Pollution

by Phillip Ables

IT finally happened. The missiles rose, the bombs fell, and you were unprepared. Sixty minutes into World War III and you're scared spitless.

Still, you haven't done too badly. In less than an hour you've gathered your family into a room in the middle of the house and sealed yourselves in with towels and duct tape. Your jury-rigged bellows — made from cardboard and a trashcan liner, with flannel shirts and toilet paper for filters — should scrub the fallout from the air and keep you from suffocating on your own carbon monoxide. If the fallout doesn't last too long, you may live.

It's the fallout that has you worried. The odds are that prevailing winds are wafting tons of radioactive, micron-sized concrete and earth toward your home.

How extensive was the attack? How will you know when it's safe to leave your makeshift shelter to search for the medicines and provisions you should have stored?

The only radio in the house is built into your stereo cabinet; the electricity went off half an hour ago. Your water will last less than a week, the battery from your car only a matter of hours. You could have purchased a reliable CD-surplus radiation meter for less than \$100; you didn't, and you may die from your short-sightedness. *Why weren't you ready?*

Calm down. With the following instructions and some common household items, you can build a dosimeter that will gauge with surprising accuracy the level of radioactivity in your area. It just might save your life.

The materials you will need include: An iced-tea-size glass, some nylon thread, transparent tape, scissors or a pocket knife, a small metric ruler, and the lid from a 6½ ounce tuna or similar-size can.

Step 1: Carefully line the inside of the glass with aluminum foil, using your fingertips or a pencil eraser to work the foil into the sides and bottom of the glass.

Step 2: Remove the foil from the glass. Measure down two inches from the upper edge, then cut a one-square-inch window in the foil. Cut another window directly across from the first, then replace the foil in the glass.

Step 3: Cut the lid off the can. Measure out one inch from the center and punch two small holes side by side. Do the same on the other half.

Step 4: Cut two pieces of nylon thread over 12 inches long each and lay them parallel, one inch apart, on a table, being careful not to touch the thread near the middle. Measure three inches from one end and tape the threads to the table. Measure another six inches — without touching the middle! — and tape the threads again. Measure three more inches and cut the threads at that point (see Figure 1).

Step 5: Cut two circles the size of a quarter from another piece of aluminum foil. Slide one edge of a foil circle under *Continued on page 57*

Figure 1

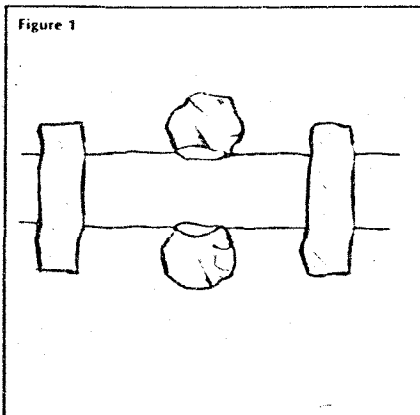


Figure 2

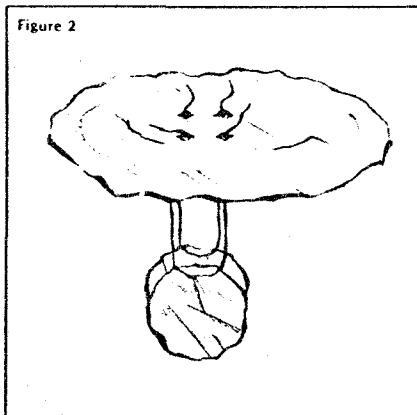
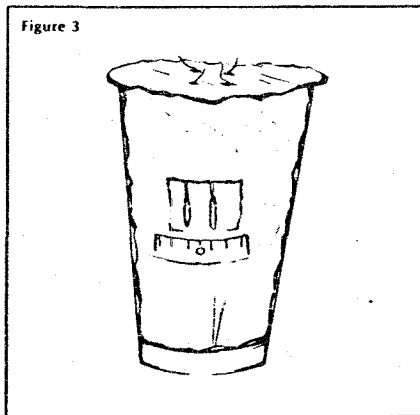


Figure 3



Illustrations by Anne Beer

To determine the level of radioactivity in your area, you must take your dosimeter outside. First, protect yourself as best you can. Put on a plastic rain suit or overcoat, rubber boots, gloves and a hat. Tear up a flannel shirt — the newer the better — or a cloth diaper and wear it across your nose and mouth. Keep your exposure to possible contamination as brief as possible. Let's say your shelter is an interior room of your house, without windows. As you leave it, have another occupant seal it behind you. If you're alone, do it yourself. Carry the dosimeter outside, charge it, then return inside and watch the gauge through a window with binoculars if possible. If not, wait outside and watch the gauge; if the discs start moving immediately, get back inside immediately — and don't forget to leave your "radiation suit" outside the shelter. The gauge is used to help determine the present level of radioactivity. The reading you obtain from it is a *rough estimate* of safe-exposure time. Remember, this is a last-ditch device, not a sophisticated scientific tool. Your surest bet is to have a good dosimeter on hand *before* you need it.

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one of the threads, halfway between the two pieces of tape, and bend that edge back over the thread, using just enough foil to hold the disk in place (see Figure 2). Again: Do not touch the thread with your hands. Repeat with the other foil disc and thread. Remove the tape.

Step 6: Run the loose ends of each thread up through the two sets of holes in the can lid and knot so the foil discs hang evenly from the lid (see Figure 3).

Step 7: Tape a strip of paper horizontally to the outside of the glass directly beneath one of the windows. In the exact center of the horizontal scale, mark a zero. Measuring exactly $2\frac{1}{2}$ millimeters each time, make six marks on either side of the zero, numbering from one to six in each direction. (If you don't have a metric ruler, turn a nickel edgewise and mark either side with a pen.)

You have now completed the two parts of your homemade dosimeter. The final step is to adjust the discs by first placing the lid assembly on the glass so you can see the thread and discs through the windows in the foil. If the discs are not an equal distance from the zero mark on the scale beneath the window, or not hanging edge-on to it, you will have to lift the lid and adjust the discs until they are — being careful not to touch the thread in the process. Now, record the discs' distance from the zero mark in this uncharged state.

The two foil discs serve as a type of electroscope. The principle is that radioactivity causes static electricity to discharge at an accelerated rate. To make the dosimeter work, the discs must be charged with static electricity, which is done by running a comb through your hair and holding it close to the discs.

Now lower the lid carefully back onto the glass so the discs retain their charge, and note immediately the number they indicate on the scale. Under normal atmospheric conditions it should take 15 minutes or longer for the discs to discharge their static electricity and return to the distance from zero they were in their uncharged state.

If radiation is present, the discs will discharge their static electricity and come together more quickly than that.

Next, record the time it takes the discs to move one unit closer to zero. Convert this time into seconds, then multiply by ten; the result is the number of hours a healthy adult could tolerate the radiation level present before a fatal dose had accumulated. Thus, if it takes five seconds for the disc to fall from 4 to 3, the safety margin would be five times 10, or 50 hours.

That may sound like a long time, but remember: Radiation poisoning is a cumulative process. If the discs fall one unit in less than five seconds, you'd better hustle back inside. It's best to stay in the shelter until the discs repel one another

for a full 15 minutes. Children, the sick and aged are more susceptible to the effects of radiation.

Keep your chin up. With a little luck and lots of ingenuity, you'll probably live. Just don't get caught without next time: you can only push your luck so far. □
